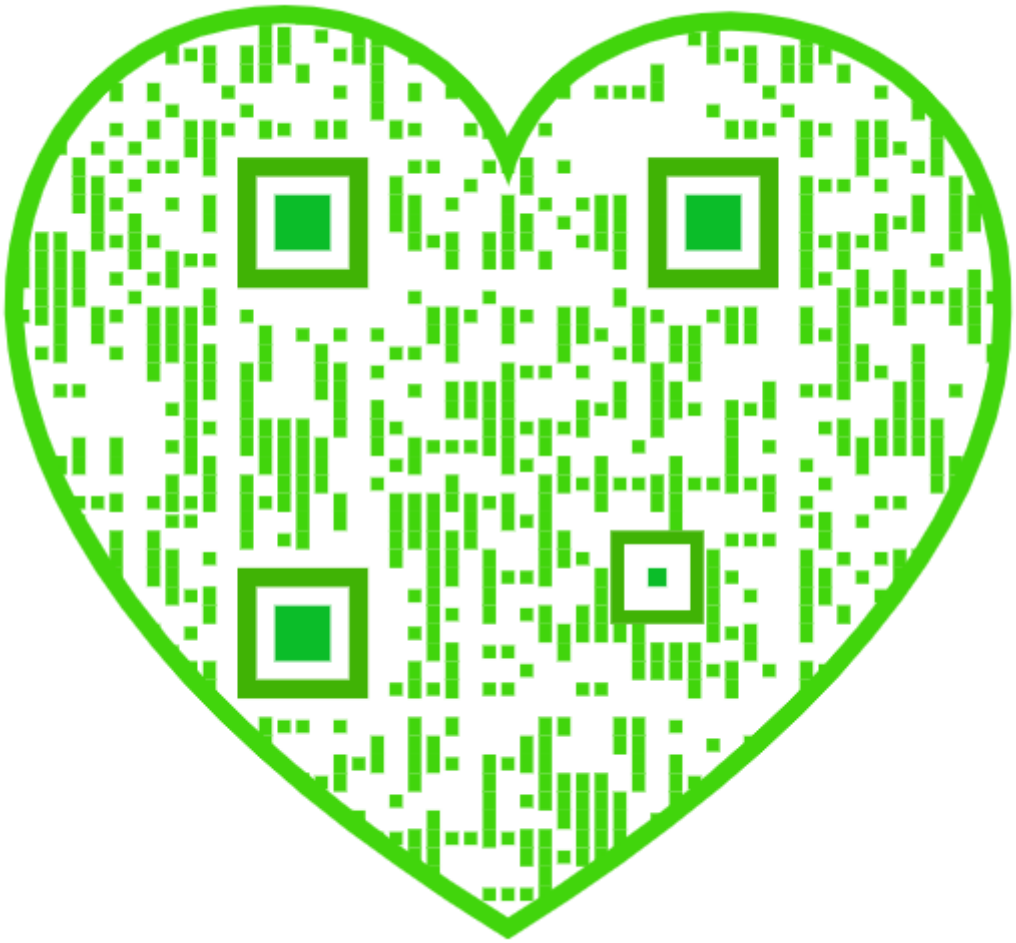

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ECONOMICS

BY

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AND

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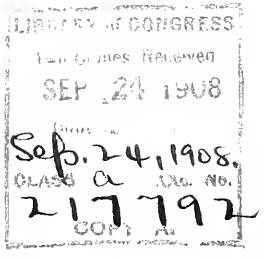

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To

PROFESSOR SIMON N. PATTEN

AN INSPIRING TEACHER

A SYMPATHETIC PRECEPTOR

A WARM FRIEND

THIS BOOK IS DEDICATED

BY TWO OF HIS INTERESTED

STUDENTS

PREFACE

In presenting this text-book on Economics, the authors desire to state that in the following pages an effort has been made to present the various phases of economic thought in a clear and impartial manner. No effort has been made to present new theories.

The authors desire to acknowledge with most sincere gratitude the deep interest of Professor Simon N. Patten, who stood ever ready with helpful suggestions at every stage of the preparation of this book.

The authors also desire to extend their thanks to Mr. C. Linn Seiler, of the Department of Economics, Wharton School, for preparing Book VII on Municipal Monopolies.

University of Pennsylvania,
August, 1908.

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ECONOMICS

TEXT-BOOK OF ECONOMICS

BOOK I

CHAPTER I

PROSPERITY

(a) China and the United States

THOSE of us who are fortunate enough to live in the United States, to come into contact with its natural resources, its busy population, and its great aggregations of capital in the form of railroads, factories, mines, stores, and houses, can well afford to congratulate ourselves, for we are living in a land of plenty; a land of prosperity as contrasted with misery; a land in which there is a surplus of economic goods rather than a deficit.

Why are we rich as a nation? How is it that we have been able to develop forces which are operating to give the United States a surplus large enough to permit of the storing up of these masses of economic goods? How is it that we do not have famines which sweep off hundreds of thousands of our people? What is the cause of our prosperity, and what is its extent? These are some of the questions which it is the design of a course in Economics to answer.

Perhaps we can best begin answering these questions by drawing a contrast between a nation in which deficit is predominant and a nation in which surplus is predominant. For this purpose we will take China as the nation of deficit and the United States as the nation of surplus.

In China there are over four hundred million people, or about five times as many as there are in the United States. If the whole population of the United States and forty

millions more were to move into the State of Texas, they would be about as close together as are the people in the Yang-tse Valley of China. China, to use a current expression, teems with people.

The Chinese belong to the Mongolian race. They are smaller than the Caucasians physically, but the experience of the last twenty years in the development of Japan, whose people are admittedly not above the Chinese in capacity, has shown that intellectually they are at least the equals of the Western races.

In a generation the Japanese have acquired a knowledge of industry and science that the Western races labored two hundred years to develop. Not only have they successfully acquired this knowledge of the Western people, but in some instances they have developed and perfected it far beyond the Western standards. The most noteworthy case of this is found in the late Russo-Japanese War, during which the Japanese loss through disease was almost nothing, while among the Russian troops in that war, the American troops in the Spanish-American War, and the British troops in the Boer War, the death roll from disease was appalling. This is only one of the instances in which the Japanese have bettered their instruction.

In natural wealth, China is the equal, if not the superior, of any like area in the world. In the first place, it is magnificently watered. The Yang-tse-Kiang, 3000 miles long, is navigable to ocean-going vessels for 1100 miles. The Hoang-Ho, 2600 miles long, is connected with the Yang-tse-Kiang by the Imperial Canal, and these two rivers and the canal form one of the finest water systems in existence.

The climate of China is that of the Temperate Zone, with a range of temperature but slightly different from that of the United States. Of the minerals, gold, silver, copper, zinc, lead, tin, and mercury exist in considerable quantities, while iron of a high quality is very abundant. It is believed that the bituminous and anthracite coal fields of China

contain as much coal as those of all the other countries of the world combined. The Chinese also have rich deposits of niter, gypsum, and porcelain earth from which china is manufactured.

In Chinese manufacturing, machinery is almost wholly absent and the only power used is, in most cases, human energy. To this condition of affairs is due the fact that no heavy or cheap products are manufactured in China, but only those things which will sell at a high price, such as silks, fine fabrics of various kinds, and other luxuries.

In spite of the fact that the people are apparently so capable and so numerous and the natural resources so abundant, the industries of China are practically undeveloped. For example, iron, instead of being manufactured at home, is actually imported, although proper methods could produce iron in China as cheaply or more cheaply than at any other place in the world. Coal is mined in very limited quantities and only by the use of manual labor. The expense of drawing it to the top of the ground is so great that only the rich can afford to buy it. In addition, the transportation facilities except on the waterways are so poor that a bulky commodity, like coal, cannot be shipped for any distance before its price has become prohibitive to all except the most wealthy.

While agriculture is held in deep veneration, the Emperor himself each year plowing a furrow and planting some seed, and while the Chinese make the best intensive gardeners in the world, the customs and traditions which have been handed down for generations govern agriculture absolutely. The implements used are of the crudest. The American plow is rejected with scorn as the peasant turns back to the inefficient implement which has been employed from time immemorial. Rice is the staple crop and food. The only domestic animal which is scientifically raised is the pig.

Here, then, is a picture of a land full of capable people, abounding in natural resources, but without industry and therefore in constant danger of want. Crop failure in a

district remote from water transportation means starvation. There are no railroads, the roads are bad, and goods carried along them by means of porters are expensive, particularly when the object transported is a bulky one, like food. People starve within two hundred miles of an abundant supply of food, with no opportunity of transporting sufficient food in a short time to avert the catastrophe. In addition to these periodic famines, the nation is constantly incurring damages and losses in the Hoang-Ho region because the river insists on changing its bed, overflowing its banks, and drowning thousands of people at a time.

It may seem inconclusive to say that the deficit condition in China is due to a lack of organized industry. The question will naturally arise, if the resources are abundant and the people capable, why is there no industry? Here is another and a vital defect in the Chinese system. Men are governed by custom. "My father used this tool," is a conclusive argument in the ears of the son, and he uses the same tool without question. The people of the United States have always developed industry irrespective of tradition, knowing that the breaking of tradition is one of the chief means of industrial progress.

When these Chinese conditions are contrasted with the United States, the differences are remarkable. In the United States with a population of ninety millions, one fifth that of China, with natural resources of the richest, and yet no better than those of the Chinese Empire, there have been developed vast systems of inland transportation and great industrial centers which furnish remunerative employments to the population and at the same time give to it a surplus which successfully prevents any such famines as periodically occur among the Chinese.

In the contrast with the conditions in China, it is interesting to note the result of the San Francisco earthquake which rendered thousands homeless and placed the entire city population in jeopardy of starvation. Within twenty-

four hours, provision trains containing all kinds of food and shelter, from every section of the country, were on the way to the scene of the disaster, and relief was poured in at such a rate that not only was there no necessity of starvation but there was an abundance for all. While people in China starve two hundred miles from stores of food, in the United States, food, clothing, and various other provisions are sent three thousand miles over rivers and mountains in the course of six or seven days to the point where they are needed.

So much for the difference between the control over natural surroundings in the two countries. It is scarcely possible to draw a parallel between the conditions of life of people in the United States and those of China, because the conditions in the United States are so infinitely superior to those of the Celestial Empire. Suffice it to say, that those things which to the Chinese laborer are untold luxuries are part of the everyday fare of the average unskilled American wage worker.

In short, as was said at the beginning, China exists in a state of deficit and the United States is a state of surplus, though in both countries there are capable populations and great natural resources. What is the cause of this difference between two nations so situated? Briefly stated, it is this. The people of the United States have learned to control their environment; that is, instead of letting nature dominate, they have learned in a large measure to dominate nature. If the Mississippi overflows its banks, as it sometimes does, the people are not drowned by the tens of thousands, because long before the break occurs or the water reaches a town, the news of the coming flood has been sent over telegraph wires and the people are prepared to meet it or else have left for places of safety. As a rule, however, the Mississippi is not allowed to overflow its banks, although it is in exactly the same position as the Hoang-Ho, flowing in a channel which is above the level of the surrounding country. Hundreds of miles of levees have been built,

which, in all but exceptional seasons, successfully confine the river within its banks.

The Chinese depend upon one crop, — rice. If the rice crop fails, the Chinese starve. The people of the United States do not depend on one crop, but on many. A great part of their food is derived from wheat, but through the development of the milling industry, the beef industry, the canning and preserving industry, and a score of others it has been possible successfully to live through a time of shortage in one crop without being in immediate danger from starvation for lack of food. In the United States, control over the natural environment is so great that people are not starved to death or drowned by thousands because of an unusual freak of nature.

This control of the environment has been perfected and exercised through scientific agricultural, mechanical means of producing and transforming food products; mechanical means of providing shelter and clothing; scientific transportation; and successful development of material resources. None of these things are found in China, and in consequence, failing in the control of their environment, the Chinese have failed to develop a surplus to meet the occasional crop failures and other disastrous events.

The United States has developed what is known as a social surplus. All of the products of industry are not consumed at once, — part of them are stored up to assist in future production.

When the savage of Australasia found a whale which had drifted ashore in a storm he at once summoned his friends and neighbors and went to work on the whale. Sometimes it took them a week, and sometimes longer, and sometimes they died from overeating, but they ate until all of the whale was gone and then eked out an existence on berries and such food as they could find until the gods should send them another whale. Americans have a different process of securing food. When a large amount of food or the money

equivalent of a large amount of food is secured by a man, he does not go and eat or drink it up at once. There are exceptions to this rule, but in the majority of cases he puts by a portion of this wealth for a "rainy day."

In consequence of this process great masses of surplus wealth have been stored up in the form of railroads, factories, machine shops, houses, and public buildings, and these things accruing year after year serve to increase the productive efficiency of the people and to render them more capable of supplying themselves with goods that they desire.

Not only does this surplus stored up and added to year after year guarantee the nation against starvation and absolute want, but in addition it supplies it with the things which go with economic surplus. In other words, there is more than is absolutely necessary to keep body and soul together.

The Chinese live upon rice, but in the United States all of the people are able to secure an abundance of nourishing food. They have meat, which is a luxury in China, they have sugar in large quantities, and are coming more and more to have fruit and vegetables in summer and winter. They are able to supply themselves not only with enough food to keep the wolf from the door, but with a number of varieties of food. In short, through the development of mechanical inventions, the consumption of food in the United States has not only been increased, but it has been varied as well. All of these things have been brought about through the development of a large surplus in the community, which may be used for satisfying the many wants of the people and for providing for the satisfaction of the new wants which are constantly arising.

Since this surplus is of such vital importance in the development and continued well-being of the community, it is the purpose of Economics to point out, first, that it depends for its stability and increase on efficiency in the production of economic goods.

(b) The Natural Wealth of the United States

The part played by natural resources in production scarcely requires comment here. Originally everything is derived from the soil. Food comes from agriculture; clothes are the result of agricultural or animal industry; the materials from which furniture is made once grew in forests; the structural materials for houses once lay in the earth in the form of sand, stone, cement, or clay; houses are built with the ground for the foundation; men walk on the ground; on it they build factories, stores, and streets; then all of the coal which warms them and the gas and electricity which give them light are the result of the extractive industries; and the rivers and harbors, mountains and valleys, highlands and lowlands, are direct gifts of nature from each of which men may derive a particular kind of commodity which is used in their industry.

Let us then glance briefly at the natural resources of the country. What are they? Of what importance are they in developing an efficient productive system?

The agricultural lands scattered over the country, together with the mineral deposits of the Eastern, the Lake, and Gulf States, form the basis of a great industrial community. At the same time, the forests and fisheries, particularly the former, furnish an important element in the list of wealth-producing resources. Nothing enters into modern life so intimately as wood. It is used in more places and for more things than gold, silver, iron, or steel.

If to these resources is added the possession of several splendid harbors, such as those at Portland, Boston, New York, Hampton Roads, Va., New Orleans, San Francisco, and Puget Sound, it is not hard for one to believe that the country is capable, from the standpoint of its natural resources, of producing great amounts of economic wealth. And, in truth, the presence of these natural resources has

been one of the principal factors in developing a control of the economic environment.

That the presence of natural resources does not, however, necessarily mean a large surplus was pointed out in the case of China. Her agricultural land is most productive, her mineral wealth is greater than that of the United States, her forests and fisheries of considerable value, her rivers and harbors among the best in the world, and yet, in spite of all this natural wealth, China remains in a state of deficit.

Production depends on three things, and the first is natural resources. It is important and fundamental, but before natural resources can be converted into wealth they require the application of another equally important and equally fundamental force; namely, labor.

(c) The Labor Force of the United States

As has been stated, labor is the second essential in the production of economic goods. Without natural resources, no economic goods would be produced, and without the application of labor to natural resources the production of economic goods would be impossible. It therefore follows that all of the wealth or economic goods which exist in a community are the result of the application of labor to natural resources.

The Chinese laborer receives $.20 for every dollar paid to a similar grade of labor in the United States. Yet the amount of goods produced by the American laborer is far greater in proportion to wages than the amount produced by the Chinese laborer. The cause of the difference can be traced to the superior ability of the organizers and managers, the superior skill of the wage workers, the superior intelligence and business ability of the whole labor force of the United States, together with the superior tools of production employed.

Ordinarily when a man speaks of "Labor," he thinks

of the ditch digger, working with pick and shovel, or of the blacksmith swinging a hammer, but in Economics labor may be defined as industrial effort, so that any one who is engaged in industry is a laborer, whether he works with his head or his hands. Therefore, when it is stated that the American labor force is superior to that of another country, reference is made not only to the carpenter and the miner, but to all of the men who engage in productive effort as well, from the president of a large manufacturing company down to the office boy who does his errands or the teamster who drives his trucks.

One of the distinctive things about the American labor force has always been that while it is paid higher wages than the labor force in any other country, its productive power has increased faster than the increase in the wages paid. From this has developed the theory in Economics that the highest-paid labor is the cheapest labor. A mechanic at $2 a day may turn out $5 worth of work, while a mechanic at $4 a day is turning out $20 worth of work. Clearly, under such circumstances, it would be to the advantage of the employer to pay $4 a day and secure four times as much product as it would to pay $2 a day and secure a less proportion of product.

If one mechanic produces $20 worth of product a day, while another is producing $5 worth, it does not necessarily follow that the man who produces $20 worth is working four times as hard, or four times as long, as the other man. What it means is that his efficiency is greater. He may work more quickly or he may turn out a higher grade of product, or he may utilize all of his time to the best advantage. Very often one man makes four motions to accomplish a certain result which another man can accomplish with one motion. In short, the labor force must learn to work efficiently if it is to turn out a large product at a low cost.

A foreigner was employed to aid in the construction of a piece of road. His part of the work consisted in breaking

stone. This he attempted to do with a stone hammer having a handle about three feet long, and every time he struck a stone he must bend over. This involved so much exertion that at the end of a half day the man was almost exhausted, and complained to the boss of the hardness of the work. The boss laughed at him, and when he started to work in the afternoon showed him the Yankee trick of putting a four-foot handle in the hammer and standing up straight while the stones were broken. By this simple device not only was the man's back saved, but he was able to accomplish much more work in the course of a day, as his physical energy was not exhausted.

Intelligent industrial training and skill in workmanship really count for something; they go to produce a product of superior quality and of increased quantity; and upon these qualities a premium should be placed.

It is not strictly accurate to say that the American labor force is on a higher plane than that of any foreign country. Until recent years, that was undoubtedly true, but the introduction of enormous numbers of labor-saving machines has made it possible to employ what is ordinarily known as "cheap labor." For example, a Hungarian laborer is paid $1.50 a day to stand in front of a machine and feed into it long bars of iron which drop out at the other end, after having undergone several operations, as a finished bolt or screw or some other product. The introduction of highly developed machinery has led to an increased demand for unskilled labor, which provides no incentive for the wage worker to develop, but makes of him and keeps him an unskilled wage worker.

This "cheap labor" consists largely of the less efficient Americans and the great number of incoming immigrants, and while much of it has come in with specialized machinery, a great portion is used because it is cheaper than machinery. Before the passage of the Contract Labor Law, which prohibits the entrance into America of any laborer who is coming

here under a contract with an employer to work for him, large numbers of immigrants were imported by great organizers of industry and used as "cheap labor." The result was the development of a system of utilizing human energy to do a great deal of work which can better be done by machinery. So long as the "cheap labor" is cheap, it will be used in place of the machines. When the "cheap labor" becomes expensive, machinery will be substituted because much of the work done by the unskilled workers could as readily be done by machinery.

For example, in the manufacture of glass bottles, each blower has two or three boys to assist him in making the bottles and a boy to carry them, when blown, to the annealing oven, where they are gradually cooled to prevent their cracking. This carrying process may be done by very young boys who are paid from $.60 to $1.00 per day or per night for their services. In some factories automatic carriers have been introduced to carry the bottles. This device does away with the employment of a number of small boys, but it was introduced only when the supply of boys became so small that either no boys at all could be hired, or else the increase in demand over the supply had raised their wages to a prohibitive figure. If the proper methods were employed in industry, much mechanical "brute force" labor would be replaced by machinery and the number of men needed in unskilled occupations greatly reduced. It is idle for a human being to compete with steam or electricity. Both are better fitted to do heavy work than are human muscles, and the men thus released can seek more skilled occupations.

In spite of this tendency to employ "cheap labor" in some industries, the general feeling is strikingly in favor of the maintenance of a high standard in the labor force which is now on a good plane of efficiency. If the United States is to maintain its position as a leading industrial nation; if the labor force is to be maintained on a high plane of effi-

ciency; work which can be done by machinery must be done in that way, leaving human energy to accomplish tasks which cannot be accomplished through mechanical devices propelled by mechanical power.

In developing her labor force, Germany has made a distinct advance beyond the position occupied by the United States. By providing many schools of technical training, she has emphasized the importance of maintaining a highly efficient labor force in the community. If the United States is to keep pace industrially with Germany, her example in creating an educational system which will preserve and increase the efficiency of the labor force must be followed.

The discussion thus far has been of natural resources and the labor force in the United States. In these two factors are found some of the causes of our great prosperity, but the good natural resources and the skilled labor force have combined to produce a third factor, capital, which also plays a leading part in modern production.

(d) The Capital of the Country

Capital consists of those products of past industry which are used in production. When labor is applied to natural resources, a mass of wealth is created which may be used in future production of wealth. For example, when iron and wood and labor combine and create a pick or an ax, they are making wealth which may be used as capital because both the pick and the ax can be employed in the future production of wealth.

Capital is wealth which is used in future production. Not only are picks and axes capital, but factories and railroads and all of the other wealth of the country which is being used in industry are also capital.

The efficiency of a nation depends largely on the ability which it possesses to use tools and machinery to the best advantage. At the time of the War of 1812, armies had

no other means of moving on the land than those employed by Julius Cæsar two thousand years before.

They had the choice of going on horseback or on foot. In two thousand years not one new method of land transportation had been invented. In fact, the armies of 1812 were somewhat worse off, because Cæsar built roads which are still used, while the roads in early nineteenth-century America were few and poor.

Since 1812, men have learned how to travel, — on the water in steamships; on the earth in railways, electric cars, and automobiles; and in the air by means of air ships. While the latter form of transportation has not yet developed on a commercial basis, the steamship, the railway, the electric car, and the automobile are among the chief transportation agents producing efficiency.

All of the great inventions have come since 1750, and their success has been made possible by the use of the two sources of mechanical power, — steam and electricity. It is the presence of mechanical power in factories, shops, and locomotives that enables Dakota to feed New York and Connecticut, while New York and Connecticut furnish Dakota with machines and clothing which are used in the production of additional food.

One hundred years ago, the shoemaker went from house to house and made the shoes for the family for the year. To-day the shoe factory employs a thousand persons and makes a pair of shoes in twenty minutes.

Men have been learning to apply their labor to the natural resources in such a way that they shall produce in addition to the goods like food and clothing, which are imperatively needed from day to day, a large number of tools, machines, and other capital which can be used in its turn to produce additional wealth, which will again be used to produce wealth. In the United States efficient systems of organizing capital are being constantly developed. Their presence results in the collection of a great mass of capital which is trans-

mitted from generation to generation and is added to and perfected by each generation.

(e) Business Organization

In modern industry, in addition to the natural resources, the labor, and the capital, there is another factor which is the result of these three, and which is one of the chief aids in developing efficiency. For convenience and clearness, this fourth factor will be called business organization.

Efficient business organization is the combining of land, labor, and capital in such a way that they will produce the highest amount of product of which they are capable.

One of the most prominent features in this business organization is the development of large-scale production. Several factors have combined to make large-scale production possible, but among them no one is more important than the utilization of the by-products of industry. The small slaughterer of beef or pork or veal threw away the offal and sometimes the bones. If he kept the latter, they were picked by hogs which he had in connection with his slaughter house, and eventually sold to the junk dealer. The hides were stored in a careless manner. Hogs were scraped and the scrapings were thrown away. Around the slaughter houses hung a continual stench due to the presence in the air of decayed animal matter.

The great packing houses of the Middle West revolutionized this system entirely. They utilize every portion of the animal except its bleat or squeal or bellow. The hoofs and certain of the joints make glue, the blood furnishes albumen, and the scrapings and parings from the leg bones and the head make sausage. Bristles are turned into brushes; the bones into knife handles, brush handles, and various other bone products; and everything that is left over after the other products have been secured is ground up and made into fertilizer. Not one particle of animal matter is wasted.

So great is the saving to the producer through the using of by-products that the packing house in Chicago can afford to market dressed meat in any town with decent railroad facilities at a lower price than the local butcher can butcher his beef, unless he be exceptionally located. This condition has been brought about by the utilization of by-products and the resulting concentration of industry, which in the case of the beef industry is dependent for its existence upon its by-product profits.

The method of utilizing by-products, while perfected in the beef-packing industry, has likewise been applied to various other operations such as the manufacturing of steel, the utilization of cotton seed, the manufacture of various kinds of wood products, and the manufacture of gas and coke.

Another cause of the development of large-scale production has been the controlling of the industrial processes from the natural resources to the user of the finished product. For example, the United States Steel Corporation digs coal and iron out of its own mines; ships both of these materials in its own cars, over its own railroads; converts them into iron and steel in its own furnaces; and makes from this iron and steel the required finished product. The company controls the complete line of productive enterprises from the raw materials in the mines to the finished steel rail or girder as it leaves the factory. This process makes possible a great cheapening in the expenses of production, because neither the materials nor the semi-finished products change hands.

There are other elements entering into large-scale production, but the use of by-products and the control of all of the processes of production are the most important in making large-scale production a success.

Civilized races differ from savage ones in many things, but perhaps the most distinctive economic factor in the development of the civilized race is the storing up each year

of a small amount of wealth, not in storehouses or barns where it may be easily lost and where it is non-productive, but in factories and railroads and stores where it cannot be easily destroyed and where it is being constantly used to produce additional wealth. That is, civilization creates an economic surplus and maintains it in the form of tools, machines, and other productive factors. By developing a business organization, these tools and machines are made exceedingly productive of additional wealth.

This wealth which is being created so rapidly must be divided up and those who are aiding in production share in the product. But how?

(f) The Distribution of Wealth

There can be little doubt in any one's mind of the reality of the things so far stated. The United States is immensely wealthy; great quantities of additional wealth are produced each year; and capital is being continually added to, and thus the possibilities of producing more wealth are increasing. But it is not enough to state that the country is rich. What becomes of these riches?

It is easy to say that a nation is rich, but what of the individuals who compose the nation? In *Hard Times* Dickens makes Mr. McChoakumchild, the schoolmaster, say: "Now this schoolroom is a nation and in this nation are fifty millions in money. Girl number 20, is not this a prosperous nation, and ain't you in a prosperous state?" And girl number 20, the daughter of a circus rider, replies that she cannot say whether it is a prosperous nation or not or whether she is in a prosperous state or not, until she knows who has the money and whether any of it is hers.

The United States cannot be truly prosperous and we as individuals cannot be well off unless all individuals share in the national prosperity.

How, then, is the wealth of the United States divided up

among those who assist in its production? The attempt to answer this question leads into the broad field of distribution.

Distribution is the dividing up of the wealth produced by industry among those factors which assist in the production of the wealth. There are four factors in the production of wealth, — land, labor, capital, and business organization. The wealth which has been created by these four factors must be distributed among them. For the use of the land, rent is paid; for the labor, wages; for the capital, interest; and for the business organization, profits.

So far there is no difficulty. There are four factors assisting in production and these are the four factors which should share in the distribution of the product of industry, but at this point difficulties arise. People have learned to produce wealth, but as yet they have never learned to distribute it so as to satisfy all of the interested parties. The reform movements and agitations that fill the newspapers and magazines are largely due to dissatisfaction with the present method of distributing wealth. Whether it be the strike of the union laborer to secure higher wages, the demands of the Single Taxer that land alone should be taxed, or the contention of the Socialist for a more equitable distribution of the social surplus, at its root is the great question of distribution. Some one is dissatisfied with the way the wealth is being distributed among the groups who have assisted in producing it.

The study of distribution will therefore be a study of the problems arising from the division of the wealth produced by industry among those factors which assisted in its production.

(g) Public Utilities

There was a time in the far-distant past when every community was fighting with every other, and was proud of the fact that it could satisfy all of its needs without calling upon any other. To-day, in America, there is not a community

which is independent. All are interrelated and work together in a condition of greater or less harmony. This situation has been brought about by the development of public utilities; that is, unified enterprises which are serving a majority of the people in the community where they exist.

The most prominent of these utilities are the railroads, the express, the telegraph, and the post. These four methods of transportation, now being increased to five by the use of the telephone, tie together all corners of the United States into one homogeneous group. They take the slaughtered products of the Middle Western packing houses to the most remote districts. They bring the fruit of California to the Atlantic coast. They facilitate business by an effective transportation of goods and messages. In short, the modern industrial community is dependent for its existence upon these agencies. Therefore they are classified as public utilities. They serve the majority of the people in the community where they exist.

In these public utilities there is stored a great mass of wealth. The railroads, for example, have more than ten thousand million dollars stored in them. The social surplus of generations has been devoted to building them, organizing them, and making them efficient; and, by continual use, the nation has learned to depend upon them absolutely in its business and social life.

In addition to these transportation facilities, which have been for a long time recognized as public utilities, a number of industries have in recent years grown to such proportions, and have come to serve such a large group in the community, that they may likewise be regarded as public utilities.

For example, the consumption of hard coal in the eastern part of the United States has become so universal that it is of particular interest in everyday life and the hard coal fields, limited to Eastern Pennsylvania and controlled by one interest, may fairly be called a public utility. The centralization of the production of petroleum, of steel, of window

glass, and of a number of other necessary commodities in a few towns or sections of the country has rendered these few towns or sections of peculiar importance to the entire public. In short, these unified industries have come to be public utilities, just as the railroad has come to be a public utility, because the majority of the people in the community are dependent upon them for their daily existence.

In cities, the street cars, the gas and electricity, the telephone and the water supply are on exactly the same basis. They are public utilities because they serve the whole community and are centralized under one control.

These utilities represent a great amount of economic surplus. It was stored up in the form of public utilities because they are of use to all of the community and they are necessary for the continued production of wealth.

(h) The Study of Political Economy

A study of Political Economy will therefore include a study of the consumption, production, and distribution of wealth and of the public utilities which are the storehouse of so much of the surplus wealth of the country.

The consumption of wealth means the destruction of utilities for the purpose of satisfying human wants. For example, burning coal to heat a house is consumption.

The production of wealth means a creation of utilities in economic goods.

A good possesses utility when it possesses the capacity to satisfy a want. Utility does not mean usefulness. The gold-headed cane is not useful, but it possesses utility because it satisfies the wants of the person who carries it. Whenever utilities are created in economic goods, that is, when the capacity which any economic good has to satisfy a want is increased, the act of increasing this want-satisfying capacity is called production.

The utilities created in goods may be of several kinds.

A productive operation may create a utility of place, of time, of form or possession.

A place utility is created when economic goods are taken from a place where they are not needed to a place where they are needed. Transportation creates place utilities in economic goods. Cotton in certain parts of the South or corn in certain parts of the West is comparatively worthless. There is so much of it that it is often burned for fuel, but either commodity transported to Massachusetts possesses considerable value. The utilities in the goods have been increased by transportation, because corn or cotton will satisfy more wants in Boston than in Texas or Kansas. The transportation has created "place utility" in the goods.

Any activity which takes goods from a place where they are not wanted to a place where they are wanted or from a place where they are wanted very little to a place where they are wanted very much; is creating utility in goods and is therefore a productive activity.

Time utilities are created by holding economic goods from the time they are not wanted to the time when they are wanted.

Ice in January is seldom wanted and therefore possesses little utility, but the same ice stored until July is universally wanted and therefore possesses greater utility. This increase in utility due to the lapse of time is called a "time utility," and the operation which creates the utility is a productive operation.

The utility created in an economic good by a change in its form which enables it to satisfy more wants in the new form than in the old, is called "form utility."

A chair in the furniture factory possesses a greater want-satisfying capacity than the boards in a lumber yard. The operation of changing the form of the goods and thus increasing their utility is a productive operation. Of the productive operations of the country a great portion create form utilities.

When the ownership of goods is transferred from one individual to another, "possession utility" is said to be created. A retail dealer, by changing the possession of the great quantities of goods in his store (much of which he himself could probably never use), to his customers, creates "possession utility." By a change of owner the goods acquire a greater power to satisfy human wants. Utility is created in them.

Production necessarily results in the creation of economic goods or wealth, and when this wealth has been created it must be divided among the people who have assisted in its creation, hence the problems arising under distribution. Distribution is the division of wealth produced by industry among the various factors in society that have aided in its production.

Modern methods of production have resulted in the creation of an enormous surplus of economic goods, — goods which cannot be used directly to satisfy human wants but which are stored up for the purpose of creating additional goods that may be used in the community. Many of these goods are stored up in the form of public utilities upon which a majority of the people of the community in which they exist are dependent more or less directly. The problems arising with the development of these public utilities will form no small part of the work of Political Economy.

The objects which Political Economy seeks to attain may be summed up as three, — first, to secure the best and largest industrial product; second, to secure this product with the least possible expenditure of human effort; and third, to utilize the wealth thus produced for the benefit of all of the people in the community.

TOPICS FOR CLASS DISCUSSION

1. Should real prosperity include every member of the community?
2. Is a nation with a great foreign trade and extensive manufactures a prosperous nation?

3. What has been the most important factor in developing the present prosperity of the United States?

4. What are the chief differences between a nation in a state of economic deficit and a nation in a state of economic surplus?

5. What are the characteristic features of the American state of surplus?

6. Should the emphasis in Economics be laid on production or on distribution?

7. What should be the goal of economic progress?

BOOK II

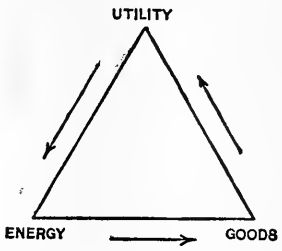
CHAPTER II

THE ECONOMIC LIFE

In this day when it is common to idealize certain methods of living by such expressions as the Simple Life, the Strenuous Life, it is of interest to note just what the Economist means by the Economic Life.

It is usually most difficult for the student just entering upon the study of Economics to grasp the real function of money. One is prone to look upon money as an end in itself instead of merely the means to the gratification of one's desires. Money is merely a convenience. It saves mankind from the inconvenience of a barter system of exchange. This does not mean that money is an essential to living. Mankind could still have food, clothing, houses, and all the necessaries of life without the institution of a money system. In many ways the various activities of life are like a circle beginning and ending in work or pleasure, whichever way one chooses to view it. People work to create goods. This is none the less true though an individual may seem to work for money. The money is valuable only as it exchanges for goods which some one else has produced. These goods in turn, however, are only means to an end. They are not made merely for the sake of making them and then storing them away out of sight. They are made because they have utility; *i.e.* have a quality in them which can satisfy some human want, and afford pleasure or benefit to the one who uses them. All goods are ultimately used up sooner of later, or *consumed*, as the economist expresses it. People consume food and drink, likewise they consume clothes and houses. With these various classes of goods,

it is only the length of time required for consumption that varies. It is only as one consumes goods that he gains back the energy which he expended in making them and maintains himself in health. If this were not so, one could not repeat day after day the round of human activities, — work, enjoyment (consumption), and work. This series of activities may be represented under the figure of a triangle.



We turn energy into "goods." By consuming "goods" we enjoy the utilities which they contain. From these one regains his health and energy. Thus the day is a complete unit, containing its quota of production and consumption, of work and pleasure, of effort and reward, of work and pay.

To lead an economic life, a man's energy must be *efficiently* used in making *only* those goods which *give him back* his energy when he consumes them. The economic man begins each morning with a fund of energy at least equal to that which he had the morning before. His energy is not "running down hill" from day to day. This sounds commonplace, and yet, in this day when society is working for the prolongation of human life, one third of our male breadwinners die between the ages of twenty-five and fifty-five, not to mention the many others incapacitated for work through poor health or injury. Such statistics indicate an uneconomic way of living on the part of a large number of our population. Unfortunately, in many of these cases, the fault rests not with the worker, but with an unawakened public opinion that permits a ten and eleven hour work day, and guards too carelessly the conditions of employment of its workers.

The economic life counts each day complete in itself. The rewards of each day should come within the twenty-four hours of that day. Only when it is so, can the individual keep up to his maximum efficiency. The point of

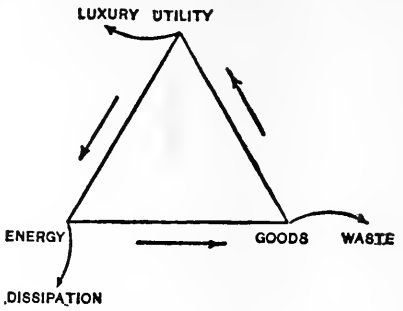
view expressed in the economic life loses patience with an existence which is all work, and which puts all its enjoyments off to an uncertain old age, just as much as it disapproves of a life spent solely in consuming goods created by the efforts of others. Neither a human machine nor a social parasite is leading an economic life.

One is apt to confuse the concept of an economic life with that of an economical life, and so imagine it to be one lived on the meagerest lines and almost devoid of pleasure. Such is not the case. The economic life is a complete, full life containing its share of recreation as well as of work. Summer vacations, theater-going, and automobiling are not ruled out by the requirements of the economic life. The economical life would probably prohibit all these. In the ideal of the economic life the only question asked in regard to one's pleasure (consumption) is — does it tend to give back to the individual his former fund of energy? Does it re-create him as well as afford him pleasure? If it does, it comes within the activities of the economic life. If, on the other hand, an individual is worse off after the consumption of certain goods, or the enjoyment of certain pleasures, than he was formerly, then he has departed from the ideal, and his life in so far has become uneconomic. The supreme test is whether that part of the day given over to the enjoyment of the fruits of one's labor has a rejuvenating effect or not. If it has, it is economic; otherwise, it is not. The test is simple — is work begun each morning with a rested body, a clear eye, and an alert mind?

Of course, many pleasures when taken in moderation, are economic, while in excess they become just the reverse. Each individual must judge of the kind and quantity for himself. What would be economic for one would conceivably be uneconomic for another. The test is personal, but, though it varies, is so simple none can mistake it.

Often one can gain a clearer concept of an ideal by considering what is the reverse, — the unideal. We may

picture this by a triangle, as follows; which indicates the three ways in which one's daily activities may depart from the economic standard.



First, instead of making the amount of goods that would be possible with the day's fund of energy, only half that amount may be made because of wastes which occur through carelessness, inefficiency, or laziness. As a result, to get a given amount of utility double the amount of goods must be created.

At the next corner of the triangle is a second place for waste to occur. The economist divides consumption goods into two classes, luxuries and necessities. In the first class he puts all those things whose consumption does not make the consumer any better either in body or mind. In Economics, luxuries are defined as those goods which have no power to restore one's energy, but which rather deplete the supply that already exists. It should be carefully noted that this use of the term "luxury" differs from that of daily use. It is by the consumption of economic luxuries, instead of necessities, that one may depart from the ideal of an economic life.

The third corner of the triangle illustrates the last way in which an individual may depart from the ideal of an economic life. The human body resembles a storage battery. One begins each day with a certain fund of energy. This power may be directed into channels whereby goods will result by which one may build up his body and brain, or it may be so dissipated that his storehouse of energy is steadily diminished. Dissipation as used in the diagram has a broader meaning than is ordinarily associated with that word. It includes not only the various forms of intemperance and vice, but the more common departures from the laws of health, as eating

at unseasonable times, sleeping irregularly, and living a generally unmethodical life. This is the age when a small leisured money class are impressing their standards on the masses. Evening functions that do not begin until 10 P.M., may not injure those who take no part in life's activity; but they become a dangerous form of dissipation for those not so situated and who must be at work the next morning at the blowing of the whistle. A standard that in any way undermines the health and robs from the next day the energy that it needs for efficient work is uneconomic.

The ideal of the economic life is of interest as far as the individual is concerned, but the real value of the concept is perceived when one applies it to a nation of ninety millions of people. Reflect what an advance in material prosperity we could make as a nation could we eliminate all waste through inefficiency. Yet much of our inefficiency to-day is due to a misdirected educational policy. We need an increase in productive power if we are to have a higher standard of living for the masses. We need a change in the enforcement of our child labor and compulsory education laws, and in the school curriculum itself, if we are to eliminate this first obstacle to economic life for the nation.

Then, again, consider what an advance would be possible for a nation whose enlightened opinion had banished "economic" luxuries. There are many silly, frivolous things made to-day which not only do no good themselves but work actual harm. A nation without such luxuries would gain not only in general health but also in the number of beautiful homes and of all those things that make life worth while. The time and energy taken to make a luxury mean just so much time taken from making an article of benefit and use. And lastly picture the future of a nation which has eliminated dissipation. The great stream of power that now goes to waste in this channel could revolutionize the present standard of living, and give us a new civilization. To eliminate dissipation is not to eliminate pleasure. It merely

involves the turning of energy from the enticing and destructive fields of vice to the equally interesting but constructive fields of work and recreation. The outlook in this direction is not so hopeless as one might at first imagine. As Professor Patten so ably points out in his recent work, *The New Basis of Civilization*, "Amusement is stronger than vice and can stifle the lust of it. It is the base of economic efficiency upon which depends the progress of multitudes."

Much vice, as criminology is now revealing, is often the direct product of a devitalized body or the result of conditions which do not afford a normal and healthy outlet for pent-up energies. Vice and dissipation are largely of the environment. The growing enthusiasm for manly sports and all forms of athletics seems to be one of the open doors to a higher type of individual and social life in which dissipation will be largely eliminated.

TOPICS FOR CLASS DISCUSSION

1. What are the chief obstacles which prevent the American people from living "the economic life"?
2. If you could, would you do nothing always? Why?
3. Do people actually expend their incomes so as to get the maximum utility judged by a standard they would admit to be morally sound?
4. Could a county better do without money, roads, or food?
5. Why cannot one give definiteness to the concept of luxury?
6. Ought legislation to attempt to prevent luxury? Can public opinion affect it?

CHAPTER III

ECONOMIC READJUSTMENTS

One is often prone to measure welfare in terms of dollars and cents. We speak of wages as rising or falling, when we should ask, Are people living under better conditions, and have they stronger constitutions than formerly? The question of an increasing or decreasing income is distinct from that of improving conditions.

A better adjustment to the environment may give people benefits and pleasures denied to any of their forefathers, either of large or small money income, at an earlier period. Many to-day living in the modern two-story house with its porch and sanitary plumbing, enamel bath tub, running hot and cold water, and steam heat are enjoying luxuries denied to kings in the Middle Ages. A comparison of the kinds of things that people use in their everyday life, such as food, clothing, and housing, is after all the real test of progress and not the phenomenon of an increasing or decreasing money income.

We may assume, contrary to the chapter on The Theory of Wages, that money income has not increased during the past fifty years and yet assert that the people are getting more out of life to-day than they ever did before, and that they are moving in a direction of being able to enjoy still more. To deny this, is to deny the course of progress, of civilization.

Perhaps in no field has there been so much progress in the past fifty years as in that of food supply. Progress here has meant not only a great increase in the total quantity of food, but in its quality and variety as well. Within the last twenty-five years there has been a veritable revolution in methods

of agriculture, until to-day we speak rightly of "scientific farming." Huge machines now do effectively the work formerly needing scores of men. Commercial fertilizers and scientific fertilization have increased the yield of certain crops from 50 to as much as 300 per cent. Irrigation, reclamation, and "dry farming" have added to the area of our agricultural land thousands of square miles. We have now reached a place in our economic development where we no longer need fear a shortage of food.

Hand in hand with the increase in quantity has gone the increase in variety. This fact can readily be appreciated by a comparison of the average corner store of to-day with that of fifty years ago. Many articles of common consumption are there now which were either absent or rarely seen at an earlier date. Of such are tomatoes, bananas, oranges, and many other tropical products, lettuce, strawberries, and the whole host of breakfast foods, not to mention all the kinds of canned and preserved goods. All these have changed the laborer's table from the monotony of stewed meat and bread to one with a well-balanced variety. Cheap transportation has brought the products of the tropics to our doors, and refrigeration and canning have annihilated time as far as food supply is now concerned. As a result the average family of to-day has a better and more varied diet than at any time before. This is of utmost significance, when one considers how much of poor health and inefficiency is due to devitalized, because poorly nourished, bodies.

No less marked a contrast can be made between the average home to-day and that of fifty years ago. One can hardly appreciate the fact until he comes across some of those older houses in the city in which no provision whatever was made for a bath room, in which the only method of lighting was by candle or oil, and where the heating was accomplished by the unhygienic method of having a stove in every room. Surface drainage was the ordinary system, and unhealthful cesspools were attached to every house. The streets were

paved with cobblestones, making them noisy and difficult to clean.

To-day in contrast stands the neat little two-story home of the average mechanic, with its sanitary and immaculate bath room, its central heater, its porch, and a small patch of green, either front or back. It faces a street well paved with either brick or asphalt. Through the introduction of the trolley car the home can be better situated than ever before. Miles of suburbs are now available for residence, which was impossible before the age of cheap transportation. With an improvement in the houses themselves has gone an improvement in their furnishing. Serviceable as well as artistic furniture is now manufactured at remarkably low prices, and where formerly pianos were the mark of aristocracy, few homes to-day are without some kind of a musical instrument.

If we look to such districts as the East Side of New York, we find that while the foregoing description hardly holds good, nevertheless signs of progress are there in evidence. The new type of tenement house is a vast improvement over the old. It is only a question of time before all the older type will have disappeared, and those built to replace them will then conform to an enlightened public opinion expressed through tenement-house legislation. In a sense, New York's congestion of population is abnormal. We may soon be wise enough to devise means for properly distributing its surplus people over the country. When we have, much of its so-called "housing problem" will adjust itself.

The farmhouse, to-day with its telephone, rural free delivery, daily newspaper, and many other city conveniences, means a more abundant life for those who till the soil, than was ever possible before.

In the variety and quantity of clothes, progress for the average man has been no less marked. The introduction of the sewing machine has not only liberated much of the housewife's time, but also has enabled the average man to dress his family in a style and variety impossible before the introduc-

tion of this time saver. Electric power applied to sewing machines has made even greater changes possible. Ready-made clothing, including shoes and hats, enable all classes in this country to dress in a style approximating a uniformity unknown elsewhere though it seems that it will not be long before American methods are introduced into Europe. The American manufactured shoe has already found favor there.

The steady increase in the growth of cotton, with its resulting increase in the manufacture of cottons, is affording a cheap and suitable style of dress for the majority of people dwelling in a climate like ours. We are likely sooner or later to break from the English custom of dressing so extensively in wool. Our climate does not require it. We are making in this line, as elsewhere, better economic adjustments.

One of the most far-reaching in its effects of all the changes of the last fifty years is found in the field of popular free education. To-day the child of the immigrant in the poorest districts of the city has provided for him free educational opportunities with which the old-type private school of the well-to-do classes could not compare. The birth of the public school system occurred but yesterday in our educational history. In that short time, however, it has made such wonderful progress that to-day children of all classes start off with educational advantages denied to any child not long ago.

The improvement has been in many fields. A comparison of some of the old-style schoolhouses containing poorly lighted and badly ventilated rooms with the modern stone structures complete in every detail indicates the general improvement that has been made in the physical equipment of the teacher.

The day when a person was considered fit to teach who was graduated solely from the highest class of the elementary schools is past. Each city now maintains in addition to its courses in the higher schools, normal courses for those intending to teach, where the instruction of the young is put on a professional basis.

Along with the improvements in the physical equipment and personnel of the teaching force, has gone a no less marked improvement in the curriculum. The idea of efficiency is beginning to permeate our educational ideals. The addition of manual training, domestic science, physical culture, and technical courses of various kinds are indications of the kind of change that is being made in our educational policy. The newer thought aims to fit people for the problems of their individual lives. In addition to these changes, the curricula have been enlarged until advanced work is now afforded to all by free high schools, and in many States, by free universities. Fifty years ago to graduate from a high school put a man in a class by himself. To-day the event is so common that it merits but passing notice. Moreover, to-day there exist the additional educational advantages of free night schools, free libraries, and free popular lectures. The combined result of these changes makes it possible for the average citizen of to-day to give his children educational advantages which a man with double his income could not have given a half century ago.

Still another field in which the family of to-day is better off than that of fifty years ago, is in the matter of health. The advancement of medical science is in a large measure responsible for this, but equally so is the spread of popular knowledge of the laws of hygiene. Science has revealed as the cause of much disease the presence of little organisms known popularly as germs and microbes. This knowledge has given us the basis for attacking much that formerly we fought in the dark. For many years, tuberculosis was held to be hereditary and incurable. To-day we know that the organism causing this dread disease can exist but a short time in the direct rays of sunlight. As a result of the law prohibiting the construction of dark interior tenement rooms, thousands of death traps have been destroyed in the city of New York alone.

Armed with our new knowledge of disease, plagues like

cholera no longer ravage our cities. It is said that yellow fever has for the last time invaded the cities of our Gulf States, since science has revealed the cause to be the germ-carrying mosquito. Smallpox is no longer the dread that it once was, and it is earnestly hoped and expected that as a result of the present educational campaign, the White Plague will soon be put in the same category.

To-day we are looking after the purity of our water supply as we have never done in the past. Aqueducts and filtration plants are now viewed as money well invested. The milk supply is being more carefully guarded than ever in our past history. We have just fully awakened to the close relation between a high infant mortality and an impure milk supply.

Again, we have learned with the passing years more about the general problems of public sanitation. All drainage must be underground. Sewerage and other waste products of the city are subject to scientific handling. Fumigation is no longer left to private individuals, but it is made compulsory by laws executed by public boards of health.

As positive aids to the health of the community have come playgrounds, public parks, recreation piers, public baths, Y.M.C.A. gymnasiums, — not to mention the positive teaching of the laws of hygiene as included in the public school curriculum and found in the daily press and popular magazines.

Last, but not least, in the improvement of public health has been the introduction of the trolley car. This has made an outdoor life possible for great masses of people who otherwise would be compelled to spend much time in the heat of a congested district. As a means of health the trolley car stands in the first place. It has given the laborer and his family a direct contact with nature which was possible formerly to those only who were fortunate enough to own a horse and carriage. All these advances are not without tangible results. Statistics point to a slowly but steadily

moving prolongation of life and a no less steadily falling infant death rate.

In recreation there has been the same advance as noted in the other fields touching the daily life of the people. The use of electric traction and the growth of pleasure parks have been the chief factors in the change. Atlantic Cities and Coney Islands are of recent development, and although not up to the highest standard of taste in all respects, their value as popular means of recreation should not be overlooked. With band concerts, boat trips, zoölogical gardens, trolley rides, and people's theaters, there seem to be more opportunities for the average man to get recreation for himself and family than ever before.

In all directions, from the quantity and variety of food, to the means of recreation open to the average man, there has been a decided advance in the economic adjustments of our daily lives. This is important in itself and stands distinct from the question of money income. Although distinct, the ultimate effect of a better economic adjustment on the question of money income should not be lost sight of. Figures have been compiled showing the money value of an education. There are clearly marked differences in income between groups which have had a rudimentary education only and those which have had a higher form of training. The contrast continues for each group up through the high school and university grades. If the son of a cobbler graduates from a free public high school, the money income of that family in the second generation will be materially increased. Again, no one can doubt that an increase in income must result from an increase in health. Not only is the money available for new purposes which originally went for medical services, but the family gains added efficiency and work power. Each economic adjustment that is made removes some from the margin and places them where a greater surplus is possible.

In all respects it is but conservatism to say that the average

man of to-day is in a position to get more out of life than he could fifty or a hundred years ago, regardless of the question of whether his money income has risen or fallen in the meantime. It is inevitable, however, that increased income ultimately follows every economic readjustment.

TOPICS FOR CLASS DISCUSSION

1. What is the real test of progress for a nation?
2. Are economic readjustments permanent or not?
3. What are some of the economic adjustments that we have not yet completed?
4. What ones do you expect the future to make?
5. What do we mean by "the course of civilization"?

CHAPTER IV

CHANGES IN CONSUMPTION

CONSUMPTION is the destruction of utilities in economic goods which is involved in satisfying personal human wants.

It is an easy thing to confuse consumption with utilization. Utilization is the destruction of utilities in economic goods which is involved in the processes of production. An example will bring out the contrast. If coal is burned in the furnace of a residence on a winter's day, that is consumption. The utilities in the coal are destroyed for the purpose of satisfying a personal, human want. On the other hand, if the coal is burned in a boiler for the purpose of running a freight elevator in a furniture factory, that is utilization. The coal is burned for the purpose of assisting in the production of furniture.

Indirectly, in the latter case, the coal satisfies human wants because the elevator will carry the furniture which goes to the consumer and satisfies his wants; but the elevator is assisting in the satisfaction of wants only indirectly. Its immediate function is that of assisting in production, and therefore destroying the utilities in the coal for the purpose of running the elevator is utilization.

These illustrations show the two extremes of consumption and utilization, but they give an idea of the relative meaning of the two terms. Between the two extremes, however, there are a host of activities which are in part consumption and in part utilization, and there are many other cases that might be classed as doubtful. In general it is possible to determine whether the destruction of utilities is consumption or

utilization by deciding whether its immediate purpose is the satisfaction of human wants or the aiding of production.

Taking this general thought as a basis, it is apparent that the happiness of any individual or group is directly dependent upon the amount and character of the consumption in that group; that is, upon the amount of consumption goods, and upon their qualities.

It is scarcely necessary to say that those who do not have a sufficient amount to consume are unhappy. The urchin freezing in the doorway for a lack of sufficient clothing and shelter, or the beggar starving in the streets, is unquestionably unhappy because of a shortage in consumption goods. On the other hand, the presence of too great an amount of consumption goods will create an equal amount of unhappiness, because their ultimate results are dyspepsia or apoplexy. In the modern American community it is probably true that there are more people who die from overeating than there are people who die from starvation.

The whole tendency of economic development has been to supply sufficient consumption goods for everybody and to supply them regularly.

The primitive man who depends on hunting and fishing for his livelihood is starving one day and replete with overconsumption the next. The development of a recognition of the necessity of stability in consumption forms a basis for the great advance which civilization has made. Progress cannot be made if people must worry every day over the danger of starvation on the morrow.

Society is slowly learning that to receive the highest pleasure from the consumption of economic goods the individual must consume neither too much nor too little, and the consumption must be regular. In a modern community people are clothed and fed from day to day, and are therefore not spending one day in misery and the next in happiness, because of the absence or presence of consumption goods. By maintaining a constant rather than an inter-

mittent supply of consumption goods, men are made more efficient producers.

The first step in progress was to make certain a steady supply of consumption goods. The second was to render the supply of consumption goods more varied.

The Chinese eat rice as the staple food. This dependence of a nation on one staple food has two results. In the first place, workers get no particular pleasure out of the monotonous diet of rice, and in the second place, if the rice crop fails, the nation starves. In former days the Anglo-Saxon race was dependent in much the same way though to a less extent on the wheat crop. If a man could eat wheat, he was called civilized. If, on the other hand, he was forced to subsist on some cheaper grain, he was regarded as uncivilized.

In America consumption is not dependent on one staple, but on many. A diet of rice or wheat has been replaced by fresh meat, eggs, butter, sugar, canned vegetables and fruit, bread and bread products made from various grains, and fresh, salt, and canned fish. These goods are derived from different sources and contain different food elements. This variety in consumption means that if one crop or one source of food supply fails, the nation will not starve to death, but will turn to some of the other products upon which it depends for food. It likewise means that the individual will get more pleasure out of eating these varied goods than he could out of eating one staple product such as rice.

Perhaps the meaning of "variety in consumption" can be best brought out by an illustration. There is a common expression, "eat bread and cheese." But why eat bread and cheese together when they can be eaten separately? This is the explanation: If a man were to eat bread alone, he would be able to eat say one pound, and then his hunger would be satisfied. On the other hand, if he were to eat cheese alone, he could eat one pound and his hunger would be satisfied.

Suppose, now, that he combines the two and eats bread and cheese together. Instead of having his hunger satisfied with one pound of food, he will be able to eat three quarters of a pound of bread and three quarters of a pound of cheese, — in all one and a half pounds of food. This is because he has varied his consumption; that is, the bread is set off against the cheese, and the cheese against the bread, and the contrast makes him eat a larger amount of food than he could have eaten without the contrast. If to this combination of bread and cheese is added a third element, pie, in all probability the man will be able to eat not only the one and a half pounds of bread and cheese, but in addition a half pound of pie, so that by adding three elements to his consumption instead of one, his capacity to consume has been increased from one pound to two pounds of food.

The desirable element in this change is not that more food is consumed, but that through the variation of food a greater amount of pleasure is derived by each consumer. It is far more satisfactory to eat three or four things for dinner than it is to eat one thing. A man receives a greater satisfaction from eating bread and cheese and pie than he would from eating one of the three alone, because each contains different elements which are set off against all of the others.

The same reasoning applies to industrial society. The American workman who has for his consumption sugar, bread, meat, coffee, canned vegetables, fresh vegetables, crackers, cakes, and pie, is more efficient as a producer and more useful as a citizen than the Chinese laborer whose diet consists of rice.

Variety of consumption has not stopped with providing a varied diet for each meal. In the average family, the consumption is further varied by providing one kind of food for breakfast, another for dinner, and still a third for supper, and then by varying the meals from day to day and providing a different meal on Sunday from that served on week days. By these means a wide variety of consumption goods

is secured and the individual is able to supply his many and varied wants. A community in which this is the case is far more likely to develop a spirit of "Peace on earth, good will to men," than one in which consumption is unvaried and the means of satisfying wants therefore few.

A man who starts to work with a satisfied feeling and a good will can accomplish far more in the course of a day than a man who is underfed, unsatisfied, and unwilling. A diversified consumption means not only more happiness and a greater productive efficiency, but it means in addition that this greater productive efficiency will provide more consumption goods so that the social surplus of the community will be constantly growing. As production becomes easier and greater, the possibility of consuming more varied goods is increased.

Efficiency in production depends directly upon the regularity, the amount, and the diversity of consumption, and the productive power of the community is therefore governed largely by the character of its consumption. It behooves society to make sure that each member has enough to consume, that he has it regularly, and that he has a reasonable variety of consumption goods.

TOPICS FOR CLASS DISCUSSION

1. What is the chief advantage secured by varying consumption?
2. How varied is your own diet? (Test by keeping a schedule for a week or more.)
3. What advantages have followed the introduction of sugar as a cheap article of food?
4. Show the benefits that will result from an extensive use of tropical fruit and vegetables.
5. How will the consumption of breakfast foods affect the people of America?
6. What tendencies can be noted in the consumption of meat?
7. What is the relation between varied consumption and production?
8. What advantage has a community in which consumption is varied over a community in which it is unvaried?
9. What is the leading factor producing a variety in consumption?

CHAPTER V

THE STANDARD OF LIVING

WHAT is a standard of living? It has been talked about and written about a great deal in the last ten years, but do people have a really definite idea as to what is meant by the term?

While the community at large may have no very definite thought behind the term "standard of living," the economist does attach to it a definite meaning. From his standpoint, a proper standard of living means the amount of economic goods which is required to maintain the highest industrial efficiency of the individual or family under consideration.

It is perfectly possible for a family to live on corn bread and molasses or salt pork and cabbage, but the worker in such a family will not be maintaining his highest efficiency, nor will his children develop their highest efficiency under such conditions. It is a fact beyond dispute that neither corn bread and molasses nor salt pork and cabbage contain the most nutritious of food elements.

In order to develop into strong, efficient workers, children require good food, good clothing, and plenty of air and sunlight. If one of these essentials is denied, the child will face the probability of developing into an inefficient man or woman. In other words, good food, sufficient protection against the weather, and plenty of air and sunlight constitute the things which are necessary to develop the highest efficiency in production, and therefore, a sufficient supply of these essentials constitutes a proper standard of living.

In order to maintain industrial efficiency, it is necessary, therefore, to maintain a proper standard of living, for only

in this way can an efficient labor force be produced to develop the natural resources of the country.

The question of the standard of living has aroused considerable discussion in recent years because of three things: (1) the great rise in prices; (2) the failure of wages to rise as fast as prices; and (3) the incoming of a large number of immigrants. All of these factors acting together help to break down the standard of living and create a class of people who are living considerably below the standard which is recognized in America as necessary for the maintenance of highest efficiency.

It is obvious that if prices rise faster than wages, any given wage worker will be able to buy less economic goods than formerly. On the other hand, the presence of the immigrant, who comes from a country where people exist at a point far below the standard of efficiency, tends to lower the American wage and living standards. He is willing to live far below the American standard and can therefore afford to work for lower wages. As the man who will work the cheapest secures the employment, the immigrant with his low wage and low standard takes the job from the American, who, to compete in the labor market, must lower his standard to that of the immigrant.

The question of maintaining a proper standard of living is an important one. All of the studies that have been made show that industrial efficiency is dependent upon the maintenance of such a standard. While this conclusion is always arrived at, authorities differ as to the facts and in many cases as to the interpretation of them. It is an easy matter to say that a proper standard of living is determined by the amount of economic goods necessary to maintain the highest industrial efficiency, but a discussion of the price and character of these goods and of the specific goods necessary in any given community to maintain efficiency, makes the problem an involved one.

In the first place, it is difficult to determine the exact wages

that are received by any given family in the community. It is evident that the money wage received on Saturday night at the place of employment is not an accurate index to the real wage of the family, first, because of differences in the cost of living, and second, because of the presence of other sources of income.

The person who has always lived in one locality does not realize how costs of living vary from place to place. Perhaps the greatest variation occurs between city and country. In the tenements of New York City a man pays five dollars per month per room, and this rental includes neither heat, light, nor furniture, but only the bare room. In many country towns this five dollars per month would secure a fairly comfortable four or five room wooden house. The house would have neither water nor gas connections, but many of the tenement houses are likewise without water or gas. In addition, many of the tenement rooms receive neither light nor air. The five dollars which would provide bare necessities in the city would secure comfort in the country.

Another important item of city expenditure is that for fuel, but in the country fuel is almost a negligible quantity, because wood, which is very generally burned, can be easily and cheaply secured. In one town with which the writer is acquainted, the saw mill furnishes hard wood in lengths of twelve and fourteen inches for a dollar and a quarter a double team load. Any one from the surrounding country who wishes to do so can drive to this mill with a large wagon and fill it up with hard wood for a dollar and a quarter. Such a condition is perhaps not general, but on the whole, the question of fuel is never so vital a one in country districts and small towns as it is in larger towns and cities.

The country districts do not furnish as many opportunities for spending money as do the city districts. There is no car fare to pay, and the temptation to buy in stores is greatly lessened by the absence of display advertising in store windows.

The price of food, which is the most important item in maintaining a proper standard of living, varies with the character of the commodity. The price of meat is about the same in the city and in the country. Vegetables, on the other hand, are considerably lower in the country, the price being the equivalent of the city price with the cost of freight, the charge of the commission merchant, and the profits of the retailer deducted. On the other hand, canned goods, bread, cakes and crackers, differ little in city and country districts. The question of food might be summed up by saying that things which are produced in the country are much lower there than in the city, while things which are produced in factories, like crackers and canned vegetables, are about the same price in city and country.

The cost of clothing would vary little in city and country districts were it not for the presence in the city of rich people dressing extravagantly. The standard of dress which they set becomes the conventional or fashionable standard, and it must be followed by all who would be "in style." The result is an expenditure for trumpery and cheap finery which is unknown in the country.

Wages present a marked contrast. Money wages are much lower in the country on an average than they are in the city, although the wages of unskilled workers are about the same in both places, being perhaps a little higher in the city. If a man is going to work at unskilled labor, he is better off in the country than in the city so far as his expenses of living are concerned. On the other hand, if a man is skilled, his chances of securing high wages are much greater in the city than in the country, although the expenses of living will also be higher.

So much for the differences in cost of commodities in city and country. As to the second influence affecting money wages, — the outside sources of supplementing income, it is fair to say that the chances in the city are limited. The children may act as newsboys, or sell small articles such as

candy and handkerchiefs on the street, any member of the family may beg or depend on charity, or the mother may take in clothing or paper flowers to "make up" at home. In proportion to the population, only a small number of city incomes are supplemented by any one of these means. In short, the city presents very few opportunities for securing incomes through outside sources.

In the country, on the other hand, a garden patch is almost always possible, and this is a great aid in supplementing the family budget. Not only does the garden furnish winter vegetables, such as potatoes, turnips, cabbages, beets, and carrots, and a long list of summer vegetables, but it may be used to supplement the money income by selling some of the best produce.

For people who live near the city, this method of supplementing income is not only profitable, but practicable. Many cases are on record where large returns have been secured from the proper management of kitchen gardens. From the reports of a kitchen garden contest covering fifty-six village gardens, averaging 14,866 square feet (one third of an acre), the products grown averaged $61.56 for each garden. In the case of one Connecticut garden containing four fifths of an acre, the value of the produce was $174.55. Of this enough was sold to net the producer $90.31. In addition, the family was supplied with summer and winter vegetables.

These two instances show the results that can be obtained from a careful cultivation of small tracts of land, and the possibility of supplementing the income through these means in places where garden patches can be cultivated.

Not only does the garden patch thus materially supplement the real income of the family, but it affords an opportunity to utilize the surplus time of the various members of the household. This has two advantages. In the first place, the addition to the real wage of the family thus secured makes it possible for many families to live nearer a standard which

will insure efficiency. In the second place, when spare time is fully employed, Satan has no chance to find mischief for idle hands. The existence of the kitchen garden has kept many a man and boy from the loafer's corner and the saloon.

To be sure, this system of supplementing the income through gardens has been adopted to some extent in cities. Vacant Lot Cultivation Associations and School Garden Associations have done much to interest children in the problems of agriculture, and in many cases have afforded considerable additions to the family income. But in the modern city the amount of land available for such purposes is so small in comparison to the number of families that it is a negligible quantity.

Aside from the differences in the cost of living between country and city, which form such a baffling problem to the student who is attempting to determine the relative value of the two in maintaining efficiency, there are many differences between one city and another. For example, a brick house with four rooms and water and gas connections can be rented in Philadelphia for $12 a month; in Pittsburg the same house would cost $20 a month; while on Manhattan Island such a house could not be secured at all. On the other hand, in New York City, many of the fresh imported fruits, such as bananas, are apt so be much cheaper than elsewhere because they arrive at that port and are taken by hucksters directly from the vessels and peddled through the streets.

In spite of the difficulty of making an accurate comparison between the various parts of the country, it is at least possible to give a relative idea, first, of the standard of living at present prevailing in the United States, and secondly, of the standard which should prevail if highest efficiency is to be maintained. By considering these two points, it will then be possible to determine whether the present American standard of living is one which will insure the highest productive efficiency of the population.

During the last few years there has been a great deal of

discussion as to the relative rise in wages and prices, and different tables compiled by different interests have produced very diverse results. Without going into details it is fair to say that in the average American city during the past ten years the cost of living has increased 30 per cent, while the rise in average wages has been 20 per cent.

In a way these figures are deceiving. While the rise in the cost of living is the same for every one who buys the commodities, the average rise in wages is no index to the individual increase in wages. For example, in the building trades, during the past ten years, there has been a great increase in wages which in some cases amounts to far more than the increase in the cost of living, but among unskilled laborers there has been practically no change in the wages paid during the past ten years. Manifestly, the increase in the wages of the brick-layer does not at all help the street-sweeper to pay his grocer's bills.

Several recent investigations have been made to determine the exact amount that was spent in American families for their various items of living, and while there is little agreement in the conclusions of the different investigations, it is perhaps fair to take the conclusions of the Special Committee on the Standard of Living appointed by the Seventh New York State Conference of Charities and Corrections.

The Committee devoted a year to the investigation, circulated elaborate schedules, carefully compiled the statistics thus secured, and made a report to the Eighth New York State Conference in November, 1907. The conclusions drawn by the Committee from its work are as follows: —

"It requires no citation of elaborate statistics to bring convincing proof that $600 to $700 is wholly inadequate to maintain a proper standard of living, and no self-respecting family should be asked to live on such an income." "The Committee believes that with an income of between $700 to $800 a family can support itself provided that it is subject to no extraordinary expenditures by reason of sickness, death,

or other untoward circumstances. Such a family can live without charitable assistance through exceptional management and in the absence of emergencies."

In this investigation a family was held to include a man, woman, and three children, all under fourteen. The report is based on statistics secured in and about New York City, and represents a fair estimate of the situation in the average American city.

The family with $700 to $800 "can support itself"; that is, secure the ordinary necessities of life. It is obvious, then, that at least this amount is necessary to maintain efficiency. It might be interesting at this point to take up an analysis of figures, to determine just what $700 to $800 per year means to a family of five.

The following table will give an idea of the annual amount needed by a family of five to live in an average American city. The rent is for two rooms only, and is therefore below the average.

Rent, 2 rooms, at $7 per month	$84.00
Fuel and light, $2 per month	24 00
Furniture and utensils, $1 per month	12.00
Clothing, $2.50 per month	30.00
Car fare, $.10 per working day	30.00
Recreation, $.05 per day	18.25
Sickness and accident, 2% of income	7.50
Savings, 5% of income	17.25
Insurance, $500 in all	16.00
Incidentals, $1 per month	12.00
	$251.50

These figures represent a minimum, and they make no provision for food.

It is probable that in no American city are any large number of men asked to work for less than $1.25 per day, or counting 300 working days to the year, $375 per year. The working man at $1.25 per day would, therefore, have for his food bill the difference between $375 and $251.50, or

$123.50. If this $123.50 is split up, it will be found that it provides for food, 33 cents per day for the family; 6.7 cents per person per day; or 2.2 cents per person per meal. It is obviously impossible for any normal person to maintain efficiency on 2 cents per meal, yet numbers of unskilled workmen are employed and paid as low as $1.25 per day.

If for $1.25 per day is substituted $1.50, the unskilled wage which generally prevails at the present time, the total income for the year will be $450. Subtracting from this $251.50, there will be remaining for food $194.50. This distributed over the year will allow 54 cents per day for the family, 10.9 cents per person per day, or 3.6 cents per person per meal. The unskilled wage worker with a family of three children must therefore exist on three and a half cents per meal, a sum obviously insufficient to maintain efficiency.

If the figures are worked out for $2 a day, which is the pay received by semi-skilled workers, the total for the year is $600; $348.50 remains for food; and this allows 95.5 cents per day per family, 19 cents per person per day, or 6.4 cents per person per meal.

In the light of these figures, one may readily understand why the New York Committee specified that at least $700 — slightly more than $2 per working day — is required to maintain life on a decent basis.

In working out these figures it has been taken for granted that full time — 300 working days per year — was the rule. If the earner is sick, his wages stop. If business is slack, men work on short time. If machinery breaks, the plant stops for repairs. These and many other contingencies may lower the wage considerably below the amounts stated.

No statistics are compiled upon which a statement of incomes in the United States can be based, but in the Annual Report of the Department of Labor for 1903 an interesting census is given of an investigation of 25,000 families. In these families, the average income from husband was $651.12, from wife, $128.52, from children, $320.63, from

boarders and lodgers, $250.77, and the average total income for all of the 25,000 families was $749.50, or about the amount stated by the New York Committee to be a minimum for the maintenence of life under decent conditions.

In addition to these figures, a compilation was made of the incomes in families in the North Atlantic States having three children under fourteen years of age. Among these families the average total income was $660, or slightly below the New York figures.

Another compilation of the same schedules included 11,150 "normal" families; that is, families in which the husband was at work, the wife living, in which there were not over five children none of whom was over fourteen years of age, and in which there was no dependent boarder, lodger, or servant.

The incomes of these "normal" families in the two largest States in the Union were as follows: —

	Pennsylvania	New York
Total families	1,666	2,154
Incomes under $200	2	1
200–300	19	14
300–400	117	84
400–500	298	268
500–600	388	437
600–700	342	452
700–800	249	452
800–900	113	171
900–1000	74	134
1000 and over	63	159

It is interesting to note that in the table for Pennsylvania the largest number of families range in income from $500 to $700, while in New York the largest number range in income from $600 to $700. In Pennsylvania one fourth of the families and in New York one sixth of the families are receiving less than $500 per year, an income far below what might be called a "decent standard."

Comparing these figures with the standard set by the New

York Committee of experts, it is possible to secure some idea of the inefficiency in America which results directly from a lack of the necessities of life.

It is not possible to emphasize too strongly the advantage of having all of the producers of the community supplied with those things which are necessary to maintain their highest productive efficiency. While there are large groups of people in the United States whose productive efficiency is impaired by their low standard of living, the productive machinery is not operating advantageously. To secure its maximum of production the community must maintain in every family a proper standard of living.

TOPICS FOR CLASS DISCUSSION

1. In your opinion, what is the most fundamental reason for maintaining a proper standard of living in a community?
2. What is the effect of maintaining a high standard of living?
3. Do high wages mean a high standard of living?
4. Do economic wants increase more quickly than the standard of living?
5. What would be the effect on the United States of providing a uniform minimum standard of living for all?
6. What is the ultimate effect on the individual of living below the normal standard?
7. Why should the community at large be interested in maintaining a high standard of living?
8. What is the force most to be relied on to maintain a proper standard of living?

CHAPTER VI

NECESSITIES AND LUXURIES

BEFORE leaving the question of consumption, there is one very important matter to be discussed; namely, the relation between necessities and luxuries. A thing is a necessity if it is required to maintain the highest productive efficiency of the individual under consideration. Anything consumed which is not required to maintain this productive efficiency is, therefore, a luxury.

From what has been said on the question of the standard of living, and of the necessity of variety in consumption, it is clear that a varied diet of good food is a necessity. It is equally clear that sufficient clothing, shelter, and recreation are necessities. To be sure, some men live on corn bread and pork; other men work eleven or twelve or thirteen hours a day throughout the year without change or rest; but neither of these facts affects the truth of the statement that these men will not be as efficient producers as they would be if they had a greater variety of consumption and a change of occupation or a complete rest.

Speaking in terms of consumption, the use of necessities is productive consumption, while the use of luxuries is unproductive consumption.

For example, if a man buys a pair of shoes and wears them out in making a gas engine, the wearing out of the shoes is productive consumption, because without the shoes it would have been very difficult or impossible to make the gas engine. In short, he needed the shoes in order to preserve his highest efficiency. The destruction of the utilities of the shoes is

productive consumption because as a result of the consumption of the shoes a gas engine, an economic product, has been created.

On the other hand, had this individual taken the pair of shoes and worn them out in walking up and down a fashionable street on Sunday afternoons, this method of destroying the utilities of the shoes would have been unproductive consumption, because walking up and down on Sundays is not a necessity and no product results from it.

Therefore, in order to be of benefit to the community at large, consumption must result in an economic product, or in some advantage that will lead to an economic product, such, for example, as increasing the efficiency of the person consuming. All consumption which does not result in one of these two things is unproductive consumption, and its existence in the community means that wealth is being destroyed without an equivalent being rendered, or, to use the current phrase, that the community is consuming luxuries.

It is not necessary that a direct, tangible economic product result from consumption. The average man who goes away for a two weeks' vacation in the summer is a more efficient producer for the other fifty weeks than he would have been had he stayed at his work for fifty-two weeks instead of fifty. In the fifty weeks, after deducting his two weeks' vacation, this man will produce a greater economic product, and a better grade of economic product, than he would have produced had he been required to work fifty-two weeks during the year. As the two weeks' vacation makes the man a more efficient producer, the consumption involved in the vacation is productive consumption, because through it the efficiency of a member of the community has been increased.

There are still men who maintain that vacations are bad things; that it is a good thing for a man to work every moment of the time while he is not eating or sleeping; and that recreation makes people dissatisfied and uneasy. The tendency of modern industrial life in America, however, is

toward vacations and a lessened number of working hours, thus placing at the disposal of the working population a greater amount of leisure time which may be utilized beneficially or otherwise, depending upon the attitude of the community and the training of the individual.

When every one in a community is supplied with the necessities of life, that is, with those things which keep his productive efficiency at its highest point, the limit of productive consumption for that community has been reached. All other consumption must be unproductive, because by means of it no additional efficiency can be attained. On the other hand, if there be one individual in the community who is not supplied with the goods necessary to maintain his highest efficiency, the community is really wasting its resources, for it is not securing the largest possible product.

The reason for this is obvious. The man who receives less than the amount necessary to maintain him at his highest point of efficiency is very much like a dull ax. It is possible to chop with a dull ax, but a few moments at the grindstone will make chopping twice as easy and twice as effective because there will be less friction. If a man is existing on less than the amount of goods necessary to maintain his highest efficiency, his production will be small in quantity and poor in quality, and his dissatisfaction and misery will be great. This man can produce something, but a slight increase in his consumption goods (to the point of providing him with all necessities) will double his product and cut in half his unhappiness and dissatisfaction.

As has been pointed out, there are in America a great number of families which are existing below the standard of living which maintains highest efficiency. A small increase in the consumption goods supplied to these people would so increase their productive efficiency as to return to the community at large many times over the amount expended in increasing their consumption goods to the required standard.

From the standpoint of the community at large, it is therefore a business necessity that every producer or prospective producer be supplied with consumption goods to maintain his highest efficiency. It is only thus that the community can be supplied with the maximum of goods at the minimum of expense.

Thus far the discussion has included those living below the standard, but in the United States all do not live below the standard. On the contrary, while a portion of the population exists below a proper standard of living, a portion likewise exists above the necessary standard of living. The people included in this group are supplied with a greater amount of consumption goods than they need to maintain their efficiency as producers. They are therefore consuming luxuries.

An oversupply of consuming goods is as bad as an undersupply of consumption goods. An undersupply of goods eliminates people from the community through starvation or exposure, or, to use the current economic phrase, they are eliminated through privation. It is equally true that a great number of people are eliminated from the community by over indulgence, or through dissipation. Thus, at both ends of the scale, people are being eliminated from the community, one group by privation and the other group by dissipation.

From this state of affairs it is easy to deduce the theorem that too much is as bad as too little; that, therefore, the ideal community would supply to each person the necessities requisite for the maintenance of his or her highest industrial efficiency and that all other goods should go to form a part of the social surplus which replaces and increases the capital of the country.

It does not follow from this that the consumption of economic goods should be static. Indeed, quite the reverse should be true. The consumption of the community should set the pace for its production. At the present time the reverse is attempted with disastrous results.

Necessities and luxuries are not fixed terms. They change with each generation. Necessities increase in number as civilization advances. The luxury of one age is the necessity of the next. It is not long ago since underclothing was a luxury which could be indulged in only by the rich. It is now at the disposal of all. Sugar is to-day a staple consumption good used by every one, whereas it was once a luxury purchasable only by the most wealthy.

As a population is educated it advances its standard of necessities by increasing the variety of its wants.

Things cannot become necessities until a majority of the population actively want them, and to have an active want, a person must also possess the power to purchase. If a good is to be classified as a necessity, not only must a large number of people want it, but they must be able to purchase it as well. This increase in active wants, and therefore in necessities, means that each person will consume more regularly and consume a greater diversity of commodities, and will therefore receive more satisfaction from the consumption.

If a community could be maintained in a condition where luxuries were eliminated, necessities supplied, and a system of thorough education instituted, whereby the wants of the population could be constantly increased and diversified in beneficial ways, the rate of increased consumption would be the measure of the increase in production. In such a state of society it would be impossible to have the country periodically prostrated by a phenomenon commonly described as "overproduction," or more accurately, the inability of the community to consume what has been produced.

TOPICS FOR CLASS DISCUSSION

1. What things are necessities in the community in which you live?
2. What are luxuries?
3. Should every one be guaranteed the necessities of life?
4. Should any one be allowed luxuries?

5. What is the effect of luxury on the second generation?
6. Does luxury increase economic efficiency?
7. What group in the community is chiefly benefited by luxury?
8. Does luxury for some involve privation for others?
9. Should luxury be permitted to any before all are supplied with necessities?

BOOK III

CHAPTER VII

SOIL AND CLIMATE

SOME one has well said, "Man is a land animal." From childhood to old age his life is linked with the earth from which he got his body, by which he renews his body, and to which his body ultimately returns.

Consider for a moment the number of things which composed your morning meal that came from the earth either directly or indirectly. It will include everything from your orange to your bread and butter. The chairs upon which you sat were at one time in the forest. The material in the tablecloth from which you ate was once growing in some field of flax. The china ware from which you breakfasted, not to mention your knives and forks, were once far from daylight in the earth. In all respects man is dependent on his mother earth and her products. His happiness rests upon her generosity. The basis of his civilization is laid in her resources.

In discussing production, we saw that there were three factors involved, — land, labor, and capital. It is the purpose of this chapter to ask, first, what is included in this factor land; and second, to note the particular characteristics of the land with which nature has endowed our own country.

In Economics, when we speak of "land" we mean not only the fields and meadows, but also the rivers, lakes, and bays, the things under the earth, as mines of coal and metals and wells of oil, the creatures under the water, as fish, and the things above the earth, as primeval forests, wild game, and birds. In short, all the gifts of nature we call land. It includes

all material things that now exist on which no labor has been spent to bring them into their present form. They are, as we have said, the free gifts of nature to man, including all the raw materials upon which man works to gain his livelihood.

The niggardliness or generosity with which nature has handed out her gifts to man has had many far-reaching effects. The retarded development of Africa is the natural outcome of its vast desert, the great heat, its almost unbroken coast line, and its few navigable rivers. America, on the other hand, with its vast Mississippi Valley, its variety of climates, its mineral and vegetable wealth, its great rivers, and its broken coast lines with good harbors, has spelled Opportunity to millions. There are in these two continents the foundations upon which civilizations of very different types can be, and have been, built. The one has given us our "dark continent"; the other, the basis for our American civilization.

In a narrower sense, "land" also determines the lines along which a given people will diversify their industries within a country. Could Columbus, when he first touched American shores, have seen the vast continent with all its latent possibilities, he might have predicted many things which have since come to pass.

He would have looked to the barren New England coast with its rocky hills and thin soil, and have predicted with a certainty that the people who were to settle that land would sooner or later turn their attention to commerce and manufacturing. Could he have seen beneath the surface in Pennsylvania, he need not have been a great prophet to predict that the lives of citizens of that commonwealth would flow in certain definite channels and that there would for a time at least be located the great coal and iron center of the continent.

Again, had he cast his eyes over the fertile fields of the South, with its subtropical climate, he would have seen that here was a land whose natural development would be for a

long time at least along agricultural lines. Cotton, slavery, and the Civil War are a chain of facts depending largely upon nature's gifts to the South.

In many ways, nature has set down certain broad conditions which man must reckon with. He may turn them to his advantage, but he dare not ignore them. She has said to him, "You may be a gold miner in Alaska, and dig coal in Pennsylvania, but you cannot reverse conditions," or, "You may raise oranges in California but not in Labrador."

What, then, are the ways in which "land" aids man in satisfying his wants? As a matter of convenience, let us consider under the six following heads, some of the ways in which land forms a basis for modern industry: —

1. Soil and Climate.
2. Land Reclamation.
3. Mineral Resources.
4. Forests.
5. Water Power.
6. Inland Commerce.

Nature has been bountiful to the United States in many ways, but possibly in none has she been more so than in the means which she has afforded for agriculture. Its territory, stretching for over 1500 miles north and south, makes possible a range of climate which is further diversified by altitudes ranging from sea-level to elevations of 10,000 feet. The most southern part of our country lies opposite the Great Sahara and India, while its northern limits, exclusive of Alaska, lie opposite the southern part of Germany.

Over practically all this vast area, almost the size of Europe, there is sufficient rainfall to support abundantly varied kinds of agriculture; and even where the amount of rainfall has fallen short, as in some sections of our Western States, nature has not imposed obstacles too great to be overcome; for by means of irrigation man has made the desert blossom as the rose.

It is hardly an exaggeration to say that the American farmer has but scratched the surface of his land as far as its possibilities are concerned. The virgin soil has not had to

stand the strain of exhaustive cultivation to which Europe has long been subjected. Our ever increasing knowledge of scientific agriculture — artificial fertilizers, irrigation, dry farming, and rotation of crops — predict ever greater things for the future.

Call in review all the great fertile valleys of the world. None will be found to exceed the Mississippi-Missouri basin. None are superior, and few are comparable to it. South America has its great Amazon basin, but its intertropical location and dense growth of vegetation have made it of little value. Moreover, man has not fully accomplished that difficult task of controlling conditions within the tropics. And even when he succeeds in doing so, the inferiority of the Amazon Valley to the Mississippi will still be apparent.

The nearest approach to the Mississippi-Missouri system which Europe has, is the Danube, with its fertile basin in Austria-Hungary, but here size, if no other factor, stamps it as inferior.

Africa is woefully lacking in waterways, her only great river being better known from its historic interest than because of its present economic value. The Nile is considerably smaller than the Mississippi system, and flows through a land which on account of climate and lack of natural resources causes it to rank far below the American river in its possible usefulness.

Lastly, we turn to Asia for comparison, and we find only one, the unruly Yang-tse. Its possibilities are great. These can only be realized, however, when the Chinese have learned to control its course, and even then it must suffer by comparison. It is no vain boast on the part of America to claim one of the most wonderful river valleys of the world.

We have already spoken of variety of climate as an aid to varied forms of agriculture. In no country can be found such a wonderful combination as exists in the United States, not excepting Russia with its vast domains.

From the severe winters of Maine and its cool summers to the almost tropical heats of Florida, there are found all the intermediate stages of temperature. From the low-lying atmosphere of the lower Mississippi to the dry, clear air of Colorado and Nevada there is a great range of temperature. And nature, as though she never tired of change, has varied the climate of the Pacific slope by giving hot, dry winds to southern California, and moist cooler ones to Washington and Oregon.

It is but conservative to say that so far as fertility of soil, variety of temperature, quantity of moisture, and extent of area count for anything, no single country on the earth has greater natural advantages than America.

The story of the struggle with nature waged by the early American settler and by his successors, the American frontiersman and farmer, reads like a novel. The ingenuity, skill, and perseverance in wresting from the soil thousands of millions of tons of food, fiber, and fuel, to sustain life, and make it more worth the living, are achievements comparable to serving mankind with the pen or brush.

To those who are reared in the city, agriculture too often is looked upon as an occupation of second importance. One fails to realize that at present over half our 90,000,000 population are dependent directly or indirectly on agriculture for their livelihood. One does not credit the fact that the fixed capital of agriculture, which includes value of lands, buildings, machinery, and tools, was, at the census of 1900, $20,514,001,848, or four times the amount of fixed capital devoted to manufacturing.

The Bureau of Statistics of the Treasury Department has recently prepared an excellent map, showing the agricultural resources of the country. As is to be expected, the division of the country on such lines must be arbitrary, but a review of its principal features will be helpful as a background for a more complete study of American agriculture.

The New England States and New York are grouped as having gone over almost exclusively to dairying and mixed farming. The central strip of States running from New Jersey and Delaware, Maryland and Virginia, on the east, to Colorado and Nevada on the west, form the corn and winter wheat belt. To the north, around the Great Lakes, is the spring wheat district, while to the south, including Texas, cotton is still king. All the rest of the Western States, excepting those immediately adjacent to the Pacific Ocean, have as their leading industry wool and stock raising. The remaining States of Washington, Oregon, and California are characterized as raising chiefly grain and fruits. After a long state of experimenting, each section of the country has largely gone over to producing that for which it is best fitted by nature, — Texas to cotton, the Dakotas to wheat, California to fruit.

Let us take a bird's-eye view of the agricultural life of our people. First, there is the man who devotes his energy to mixed farming, which is characteristic of the New England and New York group of States. It is a fact of general observation that farmers in the neighborhood of cities and larger towns have more varied opportunities for agriculture than the larger farmers of the West. He is near his market, and so it is possible for him to turn to mixed farming and dairying. With this in view, it is not strange to find that section of the country which is characterized as the dairying and mixed farming section the same as the most densely settled portion of the country; namely, New England and New York.

One is inclined to underestimate the amount of wealth that this use of land contributes to the country. We rather despise the humble potato and smile at the hen as money-makers, yet the value of the former for 1906 was $150,000,000, and the eggs laid per year at the time of the last census represented no less than $144,286,158 of wealth. Of the great staples of the country listed according to money value,

potatoes stood sixth on the list, only two points below wheat, while hay, a product of mixed farming, stood third.

By far the most valuable crop of the whole country is corn, the leading product of the next group of States in our classification. It leads off the list of the staple products by a wide margin. Its importance is represented not only by $1,100,000,000 of wealth, the value of the crop in 1906, but also by the vast live-stock industry which has its headquarters in certain large cities in the corn belt, like St. Louis and Chicago. The live-stock industry owes its existence to the wonderful corn crops of the country.

Next comes the section of the country devoted mostly to wheat. Our wheat supply is of two kinds, known as the winter and spring varieties. The former grows farther toward the south, in the belt about coextensive with the corn. The spring wheat comes to maturity later. Its home is the Dakotas, Minnesota, and Wisconsin. Besides the wealth which the combined crop represents of $450,000,000, wheat is the backbone of the great milling industry which has grown up in and around Minneapolis. This great area, devoted to wheat and its milling, has sometimes been termed "the bread basket of the world." While this is possibly an exaggeration, it is one of the few great wheat centers of the world, its only worthy rivals being Canada, Southern Russia, and Argentina.

Second on the list of great staples of the country, and second on the list of all our exports, is cotton. It is the principal crop of the southern section of our country, embracing eleven States, including Texas. It is our greatest export to England, and it also supplies the raw material for the vast cotton industry in this country which now stretches from New England to the Gulf. The important rôle that this crop plays in international trade cannot be overestimated. The South is not only the great cotton-producing section of the United States, but of the world. The only rivals are Egypt and India, and they rank far lower. The one State

of Texas raises more cotton than all British India and nearly three times as much as Egypt. At present we furnish about 75 per cent of the world's cotton supply, our share being valued during the past year at no less than $640,000,000.

The western group of States, exclusive of those on the coast, are the home of the wool and live-stock industry. While the former is important, it has never been able to meet the home demand of the manufacturers, much less to play any rôle in international commerce. Wool has been the bone of contention in many tariff schedules, and the demand for free wool is ever present. However, what the section of the country misses in producing wool, it makes up for in raising live stock. Its value according to the last census ran into many millions of dollars. The superiority in product is not only one of quantity, but of quality. Some of our live stock is of world-wide fame, and often is exported on the hoof for purposes of breeding.

To mention the ways that land has aided man along the lines of agriculture and omit reference to fruit culture would be a serious oversight. Possibly no other State is more identified with this industry than California. Its brand of grapes has become a household word, while its wine industry is rapidly displacing even that of France and Italy. The fruit crops of the country represent the return on large capital investments.

In reviewing the uses of land, one is led to ask what has been the cause of the rapid and phenomenal success of the American farmer? At the basis, of course, lies the fertility of the land, its moisture and climate, but beyond these physical characteristics are other important factors. First, there is the general high intelligence of our farming class. Here the subserviency which is usually characteristic of the peasant class of Europe is missing. As President F. A. Walker is recorded as saying, "The men who tilled the soil here were the same kind of men, precisely, as those who filled the professions, or engaged in commercial or mechanical pur-

suits. . . . This state of things made American to differ from European agriculture by a wide interval. There was then no other country in the world . . . where equal mental activity and alertness have been applied to the soil as to trade and industry."

Second, there is the readiness of the American farmer to use new and improved machinery at every stage of his work. He throws tradition to the winds and looks only for results. The coöperation of the manufacturer in catering to his needs, by introducing a system of uniform exchangeable parts for his plows and reapers, and other tools, has contributed largely to the extensive use of machinery by our farmers. The question of a repair is now only the matter of waiting for a new part to be sent to replace the broken. This requires perhaps only a week or less. The return mail or express may bring the desired part, which could not have been replaced under the old system in less than weeks and at great expense.

Third, there is the National Department of Agriculture, supplemented by the State experiment stations which are now in operation in every State and Territory in the Union, including Alaska, Hawaii, and Porto Rico. This has afforded the country the most complete system of agricultural research in the world. These stations employ almost a thousand men of scientific and practical training. During their fourteen years of existence as a national enterprise, they have spent no less than $14,000,000 in the interest of scientific knowledge for the farmer. Scientific farming, with its rotation of crops, "dry farming," irrigation, and the like, are becoming every day more and more characteristic of our agriculture.

Fourth, not the least factor in the growth of our agriculture has been our efficient and cheap transportation facilities. Transcontinental railroads connecting with transatlantic steamship lines have made American wheat a possibility for the European markets. The fast freight and the re-

frigerator car have brought California and Pennsylvania as near together as were Pennsylvania and Massachusetts formerly. In addition are the facilities which nature has provided by the waterways of the Great Lakes and their accompanying rivers and canals, and the Mississippi River system with its stretch of 2550 miles. These mean possibilities for the American farmer which none other, with the possible exception of the Canadian farmer, can ever hope to enjoy.

TOPICS FOR CLASS DISCUSSION

1. What is meant by the "Economic Interpretation of History"?
2. What physical reasons account for the greatness of England? of the United States?
3. Has rainfall any relation to the density of population?
4. What relation exists between the shape and location of land masses of the earth and man's development?
5. What are the characteristics of the American farmer?

CHAPTER VIII

LAND RECLAMATION

(*a*) Irrigation

STREAMS may supply transportation, water power, or water for irrigation. There are a few streams that supply really efficient transportation, and a slightly larger number which provide good water power; but any stream or body of water may be used for irrigating. In some cases the water for irrigation is pumped from artesian wells. In other cases it is taken from lakes and streams. In most sections, where there is a shortage of rainfall, irrigation is possible, if there is a stream, a body of water, or underlying water courses that may be tapped by drilling.

No attempt will be made in this chapter to point out the technical details of irrigation or to describe the methods employed. The purpose is rather to show how the development of irrigation has opened for agriculture a large amount of land which was formerly valueless or at best used only for grazing. No subject better illustrates the value of efficient business organization.

The first irrigation in America was conducted by the Pueblo Indians, and the Cliff Dwellers, who inhabited portions of New Mexico and Arizona. Their methods were of the crudest, but their work was of such a substantial character that the farmers of New Mexico and Arizona still use some of their irrigation ditches.

The first scientific irrigation was begun by the Mormons, under their great organizer, Brigham Young. Started in Utah, just before the middle of the nineteenth century,

their irrigation work has spread until it covers tracts in Wyoming, Idaho, and Arizona. The Mormons met with discouragement at first, but by persevering they have succeeded in converting what was a desert into a garden.

During the gold rush to California, the miners built sluices to carry water for their mining; and sometimes by tapping them themselves, and sometimes by allowing others along the route of the sluices to tap them, they learned that a portion of the sluice water could be used to immense advantage for irrigating the land. This started the irrigation systems which have helped to make California one of the garden spots of the world.

The Horace Greeley Irrigation Colony, named after the man who was most interested in promoting it, was started in 1870. Between 1880 and 1890 there was a boom in irrigation. Hundreds of miles of canals were planned and built, and millions of dollars were invested. The money to carry on this boom was obtained by the sale of stocks and bonds, and although the agitation was of great ultimate help to irrigation, the schemes were, as a rule, financial failures.

The growth of irrigation in the West since 1870 has been rapid. In that year there were 20,000 acres irrigated; by 1880 the number had increased to 1,500,000, in 1899 to 3,631,000, and in 1900 to 7,539,000. Of this land irrigated in 1900, 80 per cent was devoted to the raising of crops and the other 20 per cent to pasture land. While the total cost of providing the irrigation for this seven and a half million acres was $67,770,000, the value of the crops in 1900 was $86,860,000, or a return in one year of 30 per cent more than the total cost of the irrigation system.

The census figures for 1900, which are given above, show the growth in irrigation between 1870 and 1900. The greatest real gains have, however, been made since 1902, when Congress passed the National Reclamation Act, which provides for the construction of irrigation works under the direction of the Secretary of the Interior, such works to conform

to the state laws and to be developed in accordance with local conditions. Because of the great productivity of irrigated land, holdings under the act of 1902 are limited to 160 acres for any one person. By this regulation the government hopes to do away with the concentration of the irrigated land in a few hands.

Under the act of 1902 the expenses for the construction and improvement of an irrigation system must be met from the sale of public land. In this way the work was started. The settlers who take up irrigated lands are required to pay to the government, in ten equal yearly installments, the cost of irrigation; so that, at the end of ten years, the government has returned to it an amount of money equal to the amount spent the decade previous on the irrigation system. By this means, every ten years, it is possible to double the amount of irrigation work undertaken.

At the end of the ten years, when the community has repaid to the government the cost of installing the irrigation system, the system is turned over to the holders of the irrigated land. This establishes a democratic method of managing the land. It also places on the locality the responsibility for the successful management of the system. If things go wrong, the blame rests at home, not in Washington.

In the aggregate, the seven and a half million acres of irrigated land sounds like a great amount, but it is only a small beginning when compared with the possibilities of the development of irrigation systems. The following figures will give a relative idea of the amount of arid or nearly arid land which may still be irrigated. The government has in its possession a little more than 600,000,000 acres of land. Of this amount, —

70,000,000 acres are sterile and rocky.
95,000,000 acres are sparsely wooded.
90,000,000 acres are in timber.
300,000,000 acres are fit for grazing.
70,000,000 acres are irrigable.

The irrigation works thus far constructed, important as they are, have covered only about one ninth of the irrigable land of the country. If the other eight ninths of this land when irrigated produce as prolifically as the one ninth already irrigated, at the end of thirty-five or forty years, irrigated land will supply crops worth $800,000,000 annually.

Since the passage of the National Reclamation Act of 1902, the government has undertaken the construction of twenty-five irrigation projects, the estimated cost of which is sixty million dollars and which will irrigate 3,198,000 acres, or an area equal to the total acreage in crops of Connecticut, Massachusetts, New Hampshire, and Florida at the present time.

(*b*) Swamp Draining

There is another subject which was included in the terms of the National Reclamation Act of 1902 which is fully as important as the question of irrigation, namely, the reclamation of land through drainage.

As has already been stated, about eight million acres of land have so far been made cultivable through irrigation. It is estimated that about the same number of acres have been brought under cultivation through drainage. However, up to the present time, the work of draining land has been carried on largely through private or state initiative. The national government has done practically nothing. This is not because the subject does not deserve attention, but rather because, up to a short time ago, such an abundance of land has been open to settlers that it has not been necessary to take up the reclamation of land on a large scale, either through irrigation or drainage. Now that the point has been reached where there is no more land available for free distribution, it becomes necessary to equip what land there is with the necessary appliances for producing crops.

In the United States there are over sixty million acres of

swamp or overflowed lands. Thus the amount of drainable land forms one tenth of the sum total of government lands, and is only slightly less in extent than the total amount of irrigable land. The notable thing about swamp lands is that it is apt to be the richest of any land that the country possesses. Take, for example, the swamp lands along the Mississippi. They consist of rich, deep soil that has been deposited by the river during ages. This soil is formed of the finest silt, the scourings of many different kinds of rocks carried down from the head waters of the Mississippi and its tributaries.

When in contrast with this one considers that in certain sections of the country farmers are attempting to raise crops on poor soil eight or ten inches in depth, it can readily be seen that the swamp land, if drained, will present opportunities far superior to those now afforded by the average farm land.

It is estimated that if twenty-five million acres of the swamp area of the country could be properly drained, it would represent a value of $2,500,000,000, or over $100 an acre, and would yield crops aggregating $750,000,000 annually. Divided into forty-acre farms, these lands, now utterly worthless, would supply homes for a million and a quarter families.

Florida leads the country with 29,000 square miles of swamp land; Louisiana comes next, with 15,000; the Western states have 10,000; Arkansas, 9,000; Mississippi, 9,000; Michigan, 7,500; and the rest of the states follow with decreasing amounts of land until in West Virginia there is practically no swamp area.

At the session of 1905–1906, Congress appropriated $15,000 for the purpose of surveying the swamp lands on the ceded Chippewa Indian reservations in Minnesota. The report on this survey shows that there was a possibility of draining 267,000 acres of land, and improving 135,000 additional acres. The total cost of this work is estimated at slightly over $1,000,000, and the cost per acre will vary from $1.62 to $3.23. This is a region in which drained lands are worth

from $12 to $15 per acre, so that the government can readily afford to invest in the project.

Perhaps the best-known swamps are the Florida Everglades and the Dismal Swamp of Virginia. The Everglades is a swamp only during the wet season, and even then there are stretches of prairie, inaccessible owing to the water runs. Some private attempts have been made to drain the Everglades, and these have been singularly successful, as the soil ranges from three to fifteen feet in depth and is remarkably rich, consisting of silt and decayed vegetable matter. The Everglades covers more than three million and a half acres, a large number of which are drainable at a very reasonable expense.

The Dismal Swamp is covered by patches of water which are seldom more than two or three feet in depth, and while some work has been done toward its drainage, much still remains. Like the Everglades, the Dismal Swamp presents no serious engineering difficulties. It is merely a big project, which must be handled on a large scale. Apparently there is no agency so well qualified to do the work as the federal government.

In Louisiana, near New Orleans, in the Florida Everglades, in Minnesota, North Dakota, the Red River Valley in Indian Territory, and in parts of California, considerable draining has been privately undertaken and has met with great success. What remains is for the government to undertake on a large scale what has been done by private individuals on a small scale.

In the case of irrigation, as well as that of reclamation through swamp drainage, projects, in order to be of value, must be undertaken on a scale which is too vast for individual enterprise, and which can be most justly and equitably administered and controlled by a government agency.

The natural resources of the country are valuable and capable of great development, as is shown by the growth of the mining and agricultural industries of the United States.

But, at the same time, there are 70,000,000 acres of land available for cultivation and wonderfully rich in producing power, provided water can be supplied to it in sufficient quantities. There are likewise 60,000,000 acres more which will become wonderfully productive if they can be properly drained. The problem of supplying the water in one case and removing it in another is intricate and demands careful study, highly specialized mechanical appliances, and thorough scientific knowledge. The development of these appliances with the necessary knowledge forms an integral part of the growth of business organization in the United States.

TOPICS FOR CLASS DISCUSSION

1. What does irrigation show us in regard to man's control over his environment?
2. Is the government interfering with a "divine plan" when it irrigates barren land?
3. Why was irrigation not taken up by the government earlier in the history of the country?
4. Is it better to irrigate the land of the United States or to go over into Canada and take up the "free land"?
5. Why are swamps so rich?
6. Why are they not more extensively drained and used?
7. What is the relation between swamp land drainage and business organization?

CHAPTER IX

MINERAL RESOURCES

WITHOUT doubt one of the most important bases for the industrial supremacy of any nation is its mineral resources. That England's supremacy could never have been reached without her wonderful supplies of coal and iron is a matter of common knowledge. Other factors were involved, but iron and coal lay at the foundation of her industrial revolution and the remarkable development that followed it.

The importance of an abundant mineral supply to any nation is at once apparent on reflecting how much one's daily comfort depends upon coal and iron. In some of its many forms we daily come in contact with coal, iron, oil, and copper, not to mention the precious metals. Iron and coal are the foundation stones upon which every manufacturing plant rests. Eliminate the two, and you are robbed of your machines, a large part of your building, if it is of structural steel, and your source of power. Were a country without access to iron and coal, its chances of ever advancing far beyond the agricultural state would indeed be small. Now that we have gone over in a large measure to the age of electricity, a third metal may well be added as of equal importance with the two just named; namely, copper.

In regard to these three metals, coal, iron, and copper, admittedly the basis of modern industry, how has nature endowed the United States? According to the last comparative figures available, the United States produces more iron, coal, and copper respectively than any other nation. She also stands first as a producer of petroleum, phosphate of

lime, lead, gold, silver, and aluminum, all of which are useful in man's economic activities.

The richness of our mineral resources adds much to the wealth of our country directly. In addition it forms the basis for many of our large industries, representing many millions of capital and employing many thousand workmen. The Standard Oil Company and the United States Steel Corporation are conspicuous illustrations of this truth.

In 1900, for the first time in our history the total value of the commercial mineral production of the country exceeded $1,000,000,000.

The development of the iron industry in this country dates back to colonial days, when iron mining was developed in a small way in certain places in the East, notably New Jersey. Iron then, and for some time later, was produced by the charcoal method, lumber still being available in large quantities in this country. England had gone over to a bituminous process, and because of its advantages so successfully competed with American-produced iron that the iron industry steadily dwindled in this country until 1839, when it was discovered that ore could be successfully smelted by anthracite coal, an abundance of which existed in northeastern Pennsylvania. From that date on the success of the iron industry in this country was assured. In 1844 came the discovery of the wonderful Lake Superior ore mines. Gradually anthracite pig iron exceeded the output of the ore made by the primitive charcoal method.

In 1864 the Bessemer process was introduced into this country. This marked the beginning of the transition from the age of iron to the age of steel. It involved two important changes. First, bituminous coal and coke were now used as the basis for smelting the ore. Second, the seat of the iron industry was moved from eastern to western Pennsylvania, to the district around Pittsburg, which is well supplied with the necessary fuel. These changes occurred about 1875. From 1880 on to the present the progress of the iron and

steel industry has been phenomenal, going ahead by leaps and bounds. By 1890 the United States passed England for the first time as a producer of pig iron. At present this country heads the list of all iron producers, furnishing at the last census no less than 34 per cent of the world's total output. The chief source of iron ore is the district composed of the States of Michigan, Wisconsin, and Minnesota. This Lake Superior district supplies about two thirds of the total output of the country. The remainder comes largely from Pennsylvania, Alabama, and West Virginia.

The copper industry of the country was slower to get a start than iron, but its development has been no less phenomenal. 1854 marks the beginning of its production in this country. For almost a generation after this date the copper mines on Lake Superior in Michigan were the chief source of supply. By 1880 copper was found in great abundance in Montana, and before the end of the century, Arizona, Colorado, and California were added to the list of copper-producing States. The result of the richness of these new discoveries was that according to the last census the United States produces more copper than all the rest of the world put together, turning out in that year no less than 271,000 tons.

The production of petroleum dates from about 1860. From western Pennsylvania, where it was first discovered, its production has spread to many other States, notably Ohio, Indiana, New York, West Virginia, Texas, and other States. Progress has been steady until our production at the time of the last census amounted to no less than 2,660,000,000 gallons, valued at over $75,000,000. We are, by far, the largest producers of oil.

Besides the forms of mineral wealth that we have here mentioned in greater detail there are many others with which this country is plentifully endowed, and which have proved a source of wealth to the country, as may be seen by consulting the following table, which indicates the relative impor-

tance of the leading mineral products of the United States in 1900: —

QUANTITIES AND VALUES OF MINERAL PRODUCTS OF THE UNITED STATES IN 1900

	Quantity	Value
Coal: Bituminous (short tons)	212,500,000	$221,000,000
Anthracite (long tons)	51,000,000	85,750,000
Pig Iron (long tons)	13,800,000	260,000,000
Copper (pounds)	606,000,000	98,000,000
Gold (troy ounces)	3,800,000	79,000,000
Petroleum (barrels)	63,000,000	75,750,000
Silver (troy ounces)	74,500,000	35,750,000
Natural gas		23,600,000
Lead (short tons)	271,000	23,500,000
Zinc (short tons)	124,000	10,600,000

Just a word about the future. In an industry like mining, which is always extracting, and never replacing, one would paint at first a rather dark picture for the future. There are, however, certain rays of hope which one should not lose sight of. This particularly applies to that most important mineral, — iron. Fifty years ago ores that contained a high percentage of sulphur or phosphorus were of no use. To-day, as the result of experimentation, these difficulties have been overcome, and millions of tons of ore have acquired commercial value. To-day there exist great mountains of titanic ore. Because of the titanium they are held as useless to-day, but it would require an ignorance of the past history of human achievement to say that they will always remain so. The opinion of a noted student of geography is of interest at this point. "We know but little of the contents of the earth's crust. We are acquainted with small spots of the surface. Most of the surface, even, is practically unknown to us, and so far as minerals are concerned, largely unexplored. We know almost nothing of the five thousand feet or so beneath the surface, which is within our reach."

TOPICS FOR CLASS DISCUSSION

1. Why are iron and coal called the "foundation stones" of industry?
2. Can mineral resources be conserved, as is true of forests or fisheries?
3. In whose hands are most of the iron ore mines to-day? Why?

CHAPTER X

FORESTS

THE early American settlers found the Atlantic Slope covered with dense forests. In order to raise the crops which they needed to sustain life, they destroyed these forests as rapidly as possible. To them the forest was an enemy. Not only did it prevent the development of agriculture, but it sheltered the Indians and wild beasts, which they feared.

The settlers had, however, come from countries where forest protection was the rule, and regulations were passed at an early date providing for the care of the trees. But why care for an enemy? Such laws were essential in deforested Europe, but why enforce them among the virgin forests of America? So the laws were swept aside as the necessity for getting rid of the forests became more and more apparent.

First came the settler, who burned down the trees in order to let the sun get in to his crop of maize. Then came the lumberman, who was developing a lumber industry and exporting the products. Last of all appeared the timber butcher, who cut the trees, sometimes for the lumber, sometimes for the bark, and sometimes for both. In his cutting of the mature timber, he destroyed everything which the forests contained. When he had passed, what had been a forest was a waste.

This so-called timber butcher is a modern product. He is looking for a chance to make money and make it quick. A company recently sold to a lumberman all of the timber on a certain tract which was "ten inches in diameter eighteen inches from the ground." This case is typical of lumber-

ing methods in America. Such a specification includes everything except bushes, and clears the ground completely. It is obvious to the most casual observer that wood is of great importance in the development of modern industry. The railroad ties, telegraph poles, paper pulp, furniture, building material, and innumerable other things which surround the modern man, show its vital importance. Any policy which permits the forests of a country to be wiped out of existence without any attempt at replacement is suicidal so far as a great group of industries is concerned.

In the previous chapters an effort was made to indicate the degree of wealth of certain of our natural resources. When one comes, however, to the subject of forests, he encounters an obstacle in the fact that our present knowledge in this field is deficient. One must be content with approximations, as no authoritative estimate can be made at the present time. The magnitude of the task and many other difficulties have thus far prevented the collection of the necessary data.

It is important that we soon begin "to take account of stock." According to government figures our population increased 52 per cent from 1880 to 1900, while the increase in lumber cut for the same period was no less than 94 per cent. It is further recorded that the United States is now using annually 400 board feet of lumber per capita, while the average for Europe is but 60 feet per capita, and that at our present annual consumption of wood in all forms is *from three to four times as great as the annual increment of our forests.*

Though our data are incomplete concerning the actual amount of timber now standing, certain studies have been made on which a fairly accurate estimate may be made. Perhaps no better idea can be obtained of the value of our forest resources than that afforded by the following table, which presents the yearly output of our forest products:—

ANNUAL OUTPUT OF FOREST PRODUCTS

		Quantity	Value
Lumber	Board feet	35,000,000,000	$560,000,000
Fire wood	cords	100,000,000	350,000,000
Shingles and lath	———	———	30,000,000
Hewed cross ties	———	70,000,000	30,000,000
Cooperage stock	———	———	25,000,000
Turpentine and rosin	———	———	25,000,000
Pulp wood	cords	3,000,000	15,000,000
Timber exported (unsawed)	———	———	10,000,000
Mine timber, posts, poles, and other products	———	———	30,000,000
Total			$1,075,000,000

A forest survey of the United States shows that five groups of States embrace the naturally timbered areas of the country — the Northeastern States, the Southern States, the Lake States, the Rocky Mountain States, and the Pacific States. Just a word in passing about each of these groups.

The Northeast Forest. — The present stand in this district is mainly spruce, second-growth white pine, hemlock, and hardwoods. For a long time the most characteristic tree of this forest was the white pine, a tree that has long enjoyed great commercial importance. The only place in the world that this tree grows in marked abundance is in the confines of northern United States. The white pine is a soft pine. "It is light, easily worked, soft, not strong, suitable for the cabinetmaker, joiner, carpenter, pattern maker, and the like." Formerly this wood was more used for general construction in the United States than any other wood. It was also largely exported. The trees grow from 80 to 100 feet high, the trunks 3 to 9 feet in diameter.

At the last census the cut of white pine was 5,419,333,000 feet. This shows a decided falling off over the cut of the previous census. Besides, the quality of pine has considerably deteriorated. White pine is now becoming so scarce that "A 1 grades cost nearly as much as good mahogany." In this Northeastern Forest another tree is found which is

mentioned as worthy of note, — the spruce. It is a tree of increased lumber value, as the best pines are being cut. It is now being cut more and more for paper pulp. "The production of spruce pulp at the last census was 1,160,118 cords," the majority of which was used for newspaper and other coarse grades. The demands for wood pulp have increased of late to such an enormous extent that the domestic supply has failed to keep pace and there is now a strong agitation to lower the duty on Canadian lumber.

This Northeastern Forest has a double value. First, for the lumber itself, and second as a regulator of stream flow. The loss from floods for a year in streams which have their headwaters in the southern Appalachians was recently estimated by the government at over $18,000,000 — a loss largely preventable.

The Southern Forest. — Here are found essentially four types of forest, of which a recent government report on *The Timber Supply of the United States* says, these forests "may broadly be said to divide the land among them according to elevation above sea level. The swamp forests of the Atlantic and Gulf coasts and the bottom lands of the rivers furnish cypress and hardwoods. The remainder of the coastal plain from Virginia to Texas was originally covered with 'southern' or 'yellow' pine — the trade name under which the lumber of several pines is now marketed. The plateau which encircles the Appalachian range and the lower parts of the mountain region itself supports a pure hardwood forest, while the higher ridges are occupied by conifers, — mainly spruce, white pine, and hemlock."

The characteristic trees of hardwood forest mentioned above as being found on the plateau and lower parts of the Appalachian range are various kinds of oaks. This was formerly the district of the black walnut, which, however, now is almost extinct. The oaks of this district are of many species, most of which are of great commercial value. They are hard, tough, strong, and durable. They form suitable wood

for furniture, boat building, wagons, and agricultural implements. The characteristic trees of the forest mentioned in the government report as occupying "the coastal plain from Virginia to Texas" is the "southern" or "yellow" pine. This "southern" yellow pine, in contrast to the white pine of the northern forest, is "resinous, heavy, hard, strong, and difficult to work. The logs are often cut into timber for heavy construction as piling, wharfage, bridging." The yellow pine is of great value because of the naval stores that can be produced from it. In 1900 they were valued at $20,344,888.

The Lake State Forest. — "The Lake States still contain much hardwood forest in their southern portions. In the north the coniferous forest includes, besides the rapidly dwindling pine, considerable tamarack, cedar, and hemlock."

The Rocky Mountain Forest. — This forest occupies isolated mountain chains separated by grazing lands, deserts, or cultivated valleys. The location of these isolated patches of forests is determined largely by the degree of moisture and the presence or the absence of forest fires. The chief timber trees of this belt are Western yellow pine, a species of spruce, and the red fir.

The last great stretch of woodland is *The Pacific Coast Forest*, which extends along the coast west of the Rocky Mountain Forest, running through the States of California, Washington, and Oregon. This forest is the most densely timbered of any in the country, if not in the world. The massive trees of California have a world-wide reputation. The characteristic trees of the whole district, especially in Washington and Oregon, are those of the fir species, especially that known as the Douglas fir. The wood is used for heavy construction, as bridging, piling, railroad ties. A large tree is often from one hundred to three hundred feet high, with a trunk of two to fifteen feet in diameter. This wood furnished a large export item for this district, and is a source of great wealth. Other trees found besides the Douglas fir are

the Western hemlock, sugar, and Western yellow pine, redwood, and cedar. Thus one sees of the five forests into which the woodlands of the country naturally divide themselves, the Northeast, the Southern, and the Lake State forests contain both conifers and hardwoods, while in the Rocky Mountain and Pacific Coast forests practically all the timber-producing trees are coniferous.

In reviewing a table showing the percentage of total cut for each of the forests, it is of interest to note the shifting sources of supply as one region after another is invaded and cut out. In 1850, the Northeastern States furnished 54.5 per cent of our timber, the Lake States 6.4 per cent, the Southern States 13.8 per cent, and the Pacific States 3.9 per cent, while in 1900, the Northeastern States supplied 16 per cent, the Lake States 27.4 per cent, the Southern States 25.2 per cent, and the Pacific States 9.6 per cent. Since 1900 the product of the Pacific States has risen from 9.6 per cent to 20 per cent of the output of the country. This will be the last shift, as there now remains no other virgin timber.

One might compute the number of billion feet of timber still standing by combining a number of estimates that have been made by various authorities. Such a figure can have little interest to us. The real test of the wealth of our lumber supply lies in the ratio of growth to consumption. In ascertaining this one can perhaps do no better than to quote an excellent article on *The Timber Supply of the United States* by R. S. Kellogg, Forest Inspector.

"Only one fifth of our forest area is in National or State Forests; four fifths is either in private hands or likely to pass into private hands. It has been shown that the present annual cut of forest products requires at least twenty billion cubic feet of wood. To produce this quantity of wood without impairing the capital stock our seven hundred million acres of forest must make an annual increment of thirty cubic feet per acre. Under present conditions of mismanagement and neglect it is safe to say that the average annual increment

is less than ten cubic feet per acre for the entire area. This means that each year's cut at the present rate takes the growth of more than three years. The average age of the trees which are being felled for lumber this year is not less than one hundred and fifty years. The lumberman could not afford to replace them were he blessed with the prospect of unequaled longevity, since such long investments are unprofitable for private capital. In consequence there arises the need that the State and National governments, which do not need to look for so high a rate of interest as the private investor and which are concerned with the promotion of the general welfare, should assume the responsibility of providing a future supply of timber.

"The forest area of the United States is sufficient, if rightly managed, to produce eventually timber enough to supply every legitimate need. There is no reason why it should not some day be brought up to the point of yielding an annual increment of more than thirty cubic feet per acre, which, as previously said, would supply the quantity of timber now consumed, and which if used economically will be sufficient for a much increased population."

The United States has reached a point where its remaining forests are of great importance. Many of the forest tracts have been cut over and left desolate. The great white pine regions in the Northern and Central States have been practically denuded of timber and left barren, rocky wastes, useless except for reforestation.

When the lumberman began cutting this white pine, it took seven or eight logs to make one thousand board feet of lumber. To-day it takes fifty or sixty logs to make one thousand board feet. From this statement one may readily gather that the timber now being cut is far inferior in quality and size to that formerly available.

The effects of a ruthless cutting of timber are, in the first place, to deprive the community of their supply of wood. If this were the only bad effect, it would be a serious matter,

and alarm might well be felt when experts state that the timber supply of the country will last only thirty years. But the effects of deforestation are infinitely more serious than simply depriving the country of its wood supply. The lack of timber can be supplied by importation, but a lack of water or an over abundance of it cannot be so easily remedied.

When a mountain range is cut clean of timber, by a specification of "ten inches through, eighteen inches from the ground," the brush and limbs are left scattered over the cut tract. A dry season comes, and a passing hunter drops a match or a locomotive throws a spark among this brush. The consequence is a forest fire. The fire has been supplied with the most combustible materials in the way of dried branches and leaves, and it burns fiercely. Most of the vegetable matter is removed from the top of the ground and the surface of the earth is baked hard.

Then comes a rain, which, instead of soaking into the ground, as it ordinarily does in a wooded district, runs off rapidly into the streams, causing a freshet. If the rain has been extensive enough and covered a large tract of country, it becomes a flood of serious proportions.

Those who are familiar with a forest readily understand the contrast between the soft, porous leaf mold constantly filled with moisture and the dry, hard, fire-baked crust of a burned-over district. Nature intended the leaves and other matter on the forest floor to hold the water from season to season. This the ground was able to do until the vegetable matter was removed by fire.

In agricultural districts where the timber has been cut from the top of hills, a heavy rain running off rapidly washes the soil from the slopes down into the valleys. One of the great problems which mountain farmers who have allowed their timber to be removed now have to face is that of preventing washouts on the sloping fields.

The spongy vegetable matter in the forests was intended not only to prevent floods, but to hold the water which fell in

rainy seasons, and allow it to filter gradually off into the springs and streams during the drier times. In districts where the forests have been removed men are surprised to find that the springs and streams dry up in the summer. In many agricultural districts drought is becoming a serious problem during the late summer months.

The rise in the price of timber to prohibitive figures, freshets and floods, the washing away of sloping agricultural lands, and the failure of springs and streams are all phenomena resulting from deforestation. They cannot be adequately dealt with except by preserving the existing forests and entering upon a national campaign of reforestation.

The results of deforestation are not all direct. The industries of the country are depending more and more upon water power as a motive force. In districts where turbines have been set up and water power is being converted into electricity, low streams in the dry summer months force the factories to close temporarily. The forest loam no longer holds the water from the spring rains. The April showers ran off in the form of freshets and floods, causing damage from the mountains to the sea. In August and September the water which the forests formerly held in the roots and loam has already found its way into the lower courses of the rivers.

One of the great drawbacks to generating power on small streams is that they are overfilled with water in the spring and empty in the fall. Both conditions would be obviated if there were timber land at the head waters.

Forest fires have already been spoken of. They are due, first, to the presence in cut-over districts of great quantities of brush in which fire gains headway rapidly, and second, to the absence of any organized system of preventing and checking them.

Experts state that more timber has been destroyed in the United States by forest fires than has been cut by the ax and converted into merchantable material. The railroad has

proved perhaps the most destructive of any agency. The sparks from the locomotives start fires in unsettled districts. These fires get good headway before they are discovered and burn over thousands of acres, unchecked except by wind and natural barriers such as rivers and open tracts.

The loss from forest fires is estimated at $50,000,000 annually. In 1902 the Hinckley fire in Minnesota destroyed $25,000,000 worth of property and killed 418 people. This fire smoldered for two weeks before a high wind came and drove it fiercely through the forests. At any time during these two weeks an effort on the part of skilled foresters could have extinguished the fire and saved the lives otherwise sacrificed. In 1903, 650,000 acres were burned over in the Adirondacks. In that year the direct loss to the state of New York from forest fires was estimated by the State Forest Commissioner at between three and four million dollars.

Enough has been said to show that the policy of allowing unchecked timber cutting and of permitting the destruction through fire which now goes on is in the long run a dangerous policy.

If the timber supply of the country will last but thirty years, it seems unnecessary to state that every stick of it should be guarded and that it should not be wantonly destroyed through forest fires and timber cutting. Europe has waked up to the fact that its timber supply is in danger of being exhausted. To meet the situation, laws have been passed in the leading countries, surrounding the cutting of timber with stringent regulations. The governments own large portions of the forest lands, and cutting is permitted on them only of trees which have reached maturity. In some cases the law requires two trees to be planted for each one that is cut.

The national timber reserves of the United States now include about 50,000,000 acres, and a corps of experts, under the direction of the Bureau of Forestry in Washington, inspects the forests, checks forest fires, and prevents the

cutting of timber except under regulations prescribed by the government.

The development of the country demands imperatively that stringent regulations be made and enforced to preserve the forests. Perhaps there is no one natural resource which is of such general importance to the country and which is in such imminent danger of destruction as the forests. State action has proved next to useless as a method of preserving them and the only alternative is interference by the federal power.

Agriculture, lumbering, and inland transportation interests are all involved. They will all be benefited by the preservation of the forests, and it is to be hoped that, at no distant date, the United States will adopt a forest policy comparable with those of the more advanced European states.

TOPICS FOR CLASS DISCUSSION

1. Explain the importance of the forest as a natural resource.
2. What is the relation between deforestation and floods?
3. What is scientific forestry?
4. Explain the German forestry service.
5. What could scientific forestry do for the United States?
6. What steps have thus far been taken?
7. What justification can be advanced for the government forest reserve?
8. Outline the economic advantages of preserving the forests.

CHAPTER XI

WATER POWER

One of the things which the early colonists found in comparative abundance was water power. All through New England and certain parts of the South there were numberless streams which had a high gradient and from which considerable amounts of water power could be developed. Therefore, when manufacturing was begun in the colonies, the power used was naturally water power; first, because it was so abundant, and second, because it was the only power, except wind power, then available.

The application of steam to industry, the discovery of coal, and the development of steam-propelled machinery, which began about 1800, completely revolutionized the source of the power utilized in American industries. When the great coal beds were discovered, there was an immediate rush to exploit them; and during the nineteenth century the United States occupied itself in mining coal as fast as it could be used in industry. Toward the end of the century, however, a change occurred which very materially altered the situation. Coal, particularly anthracite coal, rose in price to figures which became prohibitive in certain industries. The situation was also aggravated by labor troubles which rendered the coal supply at times uncertain, and in addition to this, experts declared that the coal in sight would be exhausted in from forty to one hundred years. Much of this supply consisted of lignite, — a very inferior fuel.

In consequence of this situation, men began to turn their attention to other sources of power. In the West they tried

to harness the sun, and several inventors attempted to secure power from the tides; but the only really significant change that was made was the change to the use of water power developed by streams. In 1870, 1,130,000 horse power, or 48.2 per cent of the power in use in the United States, was water power. By 1900 the number of horse power had increased to 1,727,258, but this formed only 15.3 per cent of the total horse power in use in the United States, so that during this period of thirty years, while the actual amount of horse power developed from water increased about 60 per cent, the relative amount when compared with the total power used in the United States fell to one third of the figure for 1870.

These figures are in a way misleading, because they do not include under "water power" the water power turned into electricity and then used to drive machinery, this last power being classed under electric power in the Census Report. But it is around this point that the whole discussion centers, for with the increased price and constantly decreasing supply of coal, the demands of industry could be met by water power only in case some intermediate force was introduced.

The old water wheel was set down directly on the stream, a race constructed, and the wheel, turned by the water from the race, was connected by belts and shafts to the machinery in the mill. Under the new system, electric turbines are installed at the stream and the water power is turned into electricity and transported over wires as far as 250 miles.

The possibility of developing electric power from water power has opened up a great avenue for American industry, and has obviated the necessity of depending upon a decreasing supply of coal for the carrying forward of industrial enterprises.

The largest individual increases in water power have come in the states which have developed the wood pulp industry. In New York the water horse power utilized for wood pulp business was 65,000 in 1890 and 191,000 in 1900. The increase in Maine in the wood pulp industry was from

20,000 in 1890 to 75,000 in 1900. Increases are also shown in New Hampshire, Massachusetts, Arizona, and North Carolina.

The development of water power around which the greatest interest at present centers is that of the Niagara Falls. Thus far the New York Legislature has given franchises for the development of only a small portion of the power of which the Falls are capable, but a vigorous protest is being made against utilizing a source of such great beauty for the purposes of industry.

The power plant below the Falls on the American side is located in the Gorge, and the water for its use is drawn from the upper Niagara River, run through the city of Niagara Falls, and discharged near the first Suspension Bridge. This plant obtains a fall of water of 215 feet. However, it has certain obvious disadvantages. First, its buildings disfigure the Gorge; and second, the plant is difficult to run, as it is in a comparatively inaccessible place.

The power plant above the Falls is a rather novel one. To construct it a pit 150 feet deep was dug in the solid rock, and at the bottom of this pit were placed the turbines. The water was conveyed down the opening to the turbines through steel tubes, and the motion generated in the turbines was returned to the electric generators at the surface by means of steel shafts. The water is secured by a canal, 250 feet wide, 1700 feet long, and 12 feet deep, which carries enough water to generate 100,000 horse power.

The last company described supplies a considerable amount of electric power to Buffalo. The Buffalo street railway is operated by means of this power, bake shops are run, street and house lighting is supplied, grain elevators are operated, and factory power is provided. In short, the power thus developed can be utilized for all of the processes of industry and at a cost considerably below the cost of steam power.

While this is the most notable instance in the country of the development of water power, the Pacific coast presents

some striking contrasts. The important thing about the Niagara Falls is the volume of its water. On the Pacific coast there are no bodies of water so large, but the fall which is secured is very great. For example, a part of the electric power used at San Francisco is supplied from a plant located at the foot of a hill 500 feet high, down which the water for the generation of the electricity is carried in steel tubes. The velocity of the water when it reaches the power plant is stated as 14,000 feet per minute. After the power has been generated in this plant, it is carried 150 miles to San Francisco at a pressure of from 40,000 to 80,000 volts, with a loss of about one fourth of the power.

From what has been said, it will readily be seen that the two problems which present themselves in the development of water power are, first, the securing of sufficient power, and second, the transmission of the power over sufficient distances to support all of the industries which may require it.

As to the first problem, it is unquestioned that there is sufficient water power in the country to supply all of our industries, and all of those that will be developed for a long time to come. The total horse power employed in manufacturing in 1900 was 11,300,000. To supply this demand, it is stated that Niagara Falls is capable of developing between six and seven million horse power, and Niagara is only one of the many falls in the country. The falls at Sault Ste. Marie (between Lake Huron and Lake Superior) have a drop of only twenty feet, and yet the volume of water is so enormous as to make possible the development of a great amount of power. On the Pacific coast, as has been pointed out, there are a number of streams which, while not providing a great volume of water, do provide a great fall. Those who propose regulating the flow of the Mississippi by the construction of reservoirs at its head waters, estimate that from these reservoirs, about 50,000,000 horse power could be developed. If to these large possibilities is added the water power which is provided by the innumerable small

rivers along the Atlantic coast, it is unquestioned that the power of the country can be supplied through electricity developed from water, provided that the electricity can be carried for a sufficient distance.

The real impetus to the modern use of water power was given in the last decade of the nineteenth century, when it was found that electricity could be cheaply developed and carried for great distances for commercial uses. Before that time water power was abandoned or left unutilized because it was often inconvenient or impossible to locate a plant directly on the water way, and this was necessary until electricity was introduced.

The use of electricity presents certain marked advantages over steam and shaft driven machinery. These advantages are summed up by prominent engineers somewhat as follows: —

1. Economy in the amount of power used.
2. Lighter buildings will hold electric machinery than those necessary to hold steam machinery.
3. A reduction in expenses of service, such as oiling.
4. A more efficient arrangement of machines. They need no longer be placed in straight lines to correspond with the lines of shafting.
5. Doing away with belts and pulleys makes access to the machines easier, and obviates many accidents.
6. The removing of belts also does away with much of the dust and dirt.
7. It is much easier to increase the units of machinery in use in a shop; instead of having to run a new line of shafting, it is only necessary to run a set of electric wires and set up a motor.
8. The speed of tools can be more readily controlled.
9. The product can be more readily increased.

The development of water power, as has been shown, is peculiar. In the early days, it was the only power relied upon

for industry. It was then supplanted by coal, but when in the last part of the nineteenth century coal became more expensive and the supply materially decreased, industries began to utilize water power again, principally because it could be advantageously employed through the medium of electricity.

The development and use of water power in industry forms one of the basic problems in the business organization of the country. The successful exploitation of the available water power of the country will mean decreased costs of manufacturing, — hence a decreased cost of finished products. Thus water power development means advantage to the community at large as well as to the manufacturer.

TOPICS FOR CLASS DISCUSSION

1. Why was water power used extensively by the early colonists?
2. What led manufacturers to replace water power by steam?
3. What is there in the present development that shows a tendency toward the increased use of water power?
4. What advantages has the use of modern water power over modern steam power?
5. What advantages has steam power over water?
6. In what respect does a reversion to water power show progress?
7. What steps must be taken to secure the most economic use of water power?

CHAPTER XII

INLAND COMMERCE

THE subject of water transportation was one of chief importance at the Conference on the Conservation of Natural Resources recently held in Washington at the invitation of the President. The cause for the increasing concern for the utilization of our waterways lies largely in two facts: first, the internal commerce of the country has been growing so rapidly, and the demands for transportation facilities have been expanding so swiftly, that the railroads of the country in ordinary times are unable properly to handle the traffic of the country; secondly, any considerable future reductions in the cost of rail transportation are improbable. There is a social economy to be gained in using the railroads of the country in reference to handling commodities expeditiously and in small units, and in employing water transportation for much of the bulkier products of our farms, mines, and forests.

Considering the great importance of water transportation facilities at present, and of their probably still greater importance in the future, it is of interest to note just what are natural resources in this line. One of the last and best statements on this subject comes from the pen of Professor Emory R. Johnson: —

"The inland waterways of the United States comprise about 25,000 miles of navigated rivers, a nearly equal mileage of streams that can be made navigable by the improvement of their channels and the regulation of the flow of their waters, the five Great Lakes with a combined length of

1410 miles, and 2120 miles of operated canals. In addition to these rivers, lakes, and canals there are 2500 miles of sounds, bays, and bayous, capable of being converted by means of connecting canals, aggregating less than 1000 miles in length, into a continuous and safe inner route for the coastwise traffic of the Atlantic and Gulf. The waterways in our country — rivers, canals, lakes, and coastal channels — have an aggregate length of between 55,000 and 60,000 miles, and only about half of the entire mileage is now used for navigation."

America has been particularly blessed with two inland waterways which are without rivals in the world, viz. the Great Lakes and the Mississippi systems. In 1906 the traffic on the former was seventy-five million tons, — three times what it was in 1890. The Mississippi system has failed to reach anything like this degree of usefulness, much less of its possible utility. Although the government has been spending comparatively large sums on both these systems, they have been far from adequate. As Professor Johnson pointed out at the conference in Washington: —

"When we consider that the United States has spent during the past hundred years in regulating, improving, and extending our system of natural waterways only $4\frac{1}{4}$ per cent of the amount private capitalists have invested in the construction of railways, our Congressional appropriations for the betterment of inland navigation seem to have been conservatively small."

Perhaps the relative value of the American waterways can be shown in no better way than by noting the volume of traffic carried on each of our waterway systems. This will afford a basis for judgment as to the relative importance of the various parts of the whole system. In 1906 there were 75,610,690 tons of freight shipped on the Great Lakes (42.6 per cent of the total freight, exclusive of harbor traffic, handled upon American waterways, coastwise and inland). For the same year the traffic of the Mississippi River and

its tributaries was 19,531,093 tons (11 per cent of total); of the other inland waterways, 3,716,765 tons (2.1 per cent of total). The combined traffic on all our inland waterways including the Great Lakes in 1906 was 98,858,548 tons, which was 55.7 per cent of the total water-borne domestic commerce of the United States.

The development of inland water transportation in the United States is strikingly similar to the development of the use of water power. The early colonists depended upon water transportation as they did upon water power, because of its abundance and also because there was no other practicable means of getting from place to place. The few roads that existed were wretched ones, and the streams became the highways for travel and trade. Settlements were made either on the coast or on streams. Both supplied fish and a ready means of getting men and things from one place to another, and many of the streams furnished water power.

The application of steam to industry led to the gradual abandonment of both water power and water transportation. In both cases, however, the point has now been reached when steam power will no longer suffice; and in order to maintain the highest efficiency of the country, it has become necessary to fall back upon natural power, improved and developed through the advanced mechanical means which are included in business organization.

In both cases the diminution of the coal supply has played a leading part, but in the case of transportation there is a factor of even greater importance. There is no question but that the railroad growth has failed to keep pace with the traffic growth and this failure has made the return to water transportation inevitable. In 1870 there were 52,000 miles of track in the United States; and in 1906, the estimated amount was 220,000 miles, but the increase was made largely between 1870 and 1900. Since then the increase in trackage has been small. From 1870 to 1900 the annual increase in the track mileage was slightly over 7 per cent. From 1900

to 1904, the increase was 2.19 per cent, while from 1904 to 1906 the annual increase was 1.45 per cent, or about one fifth the annual increase between 1870 and 1900.

But this cessation in the building of trackage is not an indication that business has likewise decreased. On the contrary, business has increased on a scale never before known. In 1895 the amount of traffic per mile of track was, passengers, 12,000,000, and freight, 85,000,000 tons. In 1900 the amount of traffic per mile of track was, passengers, 23,000,000, or twice the number for 1895, while the amount of freight was 186,000,000 tons, or more than twice the amount for 1895.

During this same period of ten years, the total trackage increased but 21 per cent, or one fifth the increase of passenger mileage and freight mileage. At the same time the number of locomotives in use increased 35 per cent; the number of passenger cars, 23 per cent; and the number of freight cars, 45 per cent. In view of these figures, it is small wonder that year after year cotton, corn, and wheat were burned or left on the ground to rot because of the lack of railway facilities.

The opening of the Panama Canal and the development of trade with South America makes the Gulf the natural outlet for a great amount of the produce of the Mississippi Basin. If to this fact is added the ease with which heavy freight can be shipped by water, it is plain that the logical outcome of the present situation will be a return to inland water routes for a great portion of the Mississippi Basin's heavier products.

Some idea of the relative costs of shipping by rail and by water may be gained from the statement that in 1905 44,000,000 tons of commerce passed through the locks of the Sault Ste. Marie Canal between Lake Superior and Lake Huron. This tonnage was carried for an average rate of .85 of a mill per ton per mile. The average freight charge per ton per mile on the railroads of the United States during 1905 was 7.6 mills, or about nine times as great as the water rate for the Great Lakes.

The same idea is brought out by a contrast between two Pittsburg rates. Between Pittsburg and Lake Erie there is a commerce amounting annually to about 30,000,000 tons, composed chiefly of iron ore and coal. The ore is carried by boat from Duluth on Lake Superior to Ashtabula on Lake Erie, a distance of 1,000 miles, for about 80 cents per ton. The ore is then loaded on cars and carried to Pittsburg, a distance of 135 miles, for 90 cents per ton, so that it costs 10 cents more to ship a ton 135 miles by rail than it does a thousand miles by water.

The coal which is carried from Pittsburg to these Erie ports at 90 cents per ton is loaded on boats and shipped to Duluth for 35 cents per ton, or one twentieth of the per mile rail rate.

The conclusion is obvious that some plan which would permit heavy freight to go from Chicago to New Orleans through a reliable channel would enormously decrease the cost of getting products to market, and would thus increase the possibility of marketing products from the Middle West.

The whole problem then centers about the improvement of the Mississippi. The Mississippi River is a river of bad habits, and the worst of these are the cutting of its banks, the formation of sand bars in the channel, and floods.

The cutting of the banks is due to curves, technically called "meanders," the river digging under the bank on the outside of a curve, particularly during flood times. Sometimes this cutting amounts to 100 or 150 feet a year. As the channel is necessarily on the outside of the curve, and as grain elevators, docks, and other means for facilitating traffic must be reached by means of this channel, it is obviously impossible to carry on commerce satisfactorily if the river is undercutting the docks and elevators at the rate of 100 feet a year.

This cutting of the banks does not, of course, interfere with the through traffic as seriously as with local traffic. The great trouble to both is the formation of sand bars, sometimes over night, and the shifting of the bars from one part of the channel to another.

It is estimated that the Mississippi carries 400,000,000 tons of silt to the Gulf every year. This material comes in largely from the Missouri River and is the result of floods at the head waters. During 1906 the damage in the Ohio Valley alone through floods was estimated at $100,000,000. In 25 years the "big floods" have cost the Mississippi Valley $200,000,000. A control of the floods of the Mississippi would decrease bank cutting and the formation of sand bars, and would eliminate flood damage, which has become a very serious item.

The river can never be successfully prevented from cutting its banks until it is straightened. This may sound like a wild suggestion, but several of the German rivers which were particular offenders in this respect have been straightened, and in the process the rivers were made narrower, thus giving a higher gradient and a more rapid flow. A straight river with narrower banks means a shorter distance to travel; a greater fall per mile (because the river goes an air line distance of 100 miles in 100 miles, while with its meanders it flows 200 miles in going an air line distance of 100 miles); and therefore a more rapid flow, carrying away more of the silt from the river bed.

Along with this straightening of the river will come other improvements to control floods, thus eliminating flood damage and preventing, to a large extent, the formation of sand bars in the river. Many schemes have been suggested for the prevention of floods.

In discussing the question of forestry, floods were shown to be due in great part to the deforestation of the mountainous country at the head waters. This is the case with the Mississippi. Great areas of land at the head waters of its tributaries have been practically deforested, leaving the water in rainy seasons to rush off from the soil into the streams and cause flood damage farther down. As a method of checking these floods, forests must be placed on the tops of all of the available hills at the head waters of the various tributaries. The

work can further be facilitated by the building of storage dams which will check the floods and allow the surplus water to flow gradually down through the lower courses of the river.

The straightening of the Mississippi, the reforesting of the hills at its head waters, and the building of storage dams on its principal tributaries to control floods, may cost one hundred or two hundred or even three hundred million dollars; but it has now become apparent that sooner or later this change will have to be made if the full possibilities of the Mississippi Basin are to be developed and its destructive tendencies checked.

While the sums named may sound large, they would ultimately benefit the country, first, by a saving of flood damage which at present amounts to from $50,000,000 to $100,000,000 a year; second, by a saving in the present freight rates; third, by providing against drought through the reforesting of portions of country that have been deforested; fourth, through the revenues ultimately derived from the forests thus created; fifth, through the water power which might readily be developed at the storage dams; and sixth, through the great impetus which would be given to industry and commerce in the Mississippi Basin by the completion of such a work.

The possibilities of increasing the productive power of the country through this series of improvements are apparent. It only remains for the country as a whole to insist on having the improvements made and thus to take a step of inestimable importance in the development of business organization.

TOPICS FOR CLASS DISCUSSION

1. How important were inland water ways before 1830?
2. Contrast the relative merits of the railroad and the inland waterway.
3. Why are the people of the United States laying new emphasis on inland water transportation?
4. Name the leading inland waterway systems of the United States.

5. What sections would profit most by the opening of the Mississippi system?

6. What would be the effect on the Eastern cities of a series of improvements in the Mississippi Valley?

7. What effect will the Panama Canal have on New York City? On New Orleans?

8. What effect will the Panama Canal have on the Mississippi as an inland waterway?

9. Does a reversion to waterways show progress?

10. Did a change from waterway to railway show progress?

11. What is the justification of governmental improvement of waterways?

BOOK IV

CHAPTER XIII

INTRODUCTION

LABOR is one of the two essential elements that enter into the productive operations of a modern industrial society, especially when that society is organized in the form of a large town or a city. The thing that impresses a countryman who comes for the first time to a large city is the fact that nothing he sees or uses, with the exception of the sky and the air, has come into existence without the effort of labor. In the country district from which he came, nature supplied the trees, the grass, the flowers, the productive soil, the springs, the waterways, the sky, and the clean air. Man had no part in bringing any one of these things into existence.

In the city, on the contrary, all of nature's functions have been supplemented. To be sure, there are trees and flowers, but they are the result of human labor, for they have all been set out in stiff, conventional rows and figures. The grass, if he find any, he may not tread upon, for it has been planted and cared for by labor and its value is shown by many signs, "Keep off the grass." Where these signs are not in evidence, grass plots are nothing but hard, baked dirt, there being so many children per blade that the grass has not one chance in a thousand to live through the struggle.

Instead of the soil to which he is accustomed, he walks upon streets paved at a cost of two dollars a square yard, the sidewalks of which are of stone or cement brought at great cost from some distant place, where it was produced by a great expenditure of labor.

The water is neither as clean nor as good as he finds it

in the country. It has been pumped into a reservoir or run through an aqueduct or through pipes in order to bring it to the people of the city. Like all the other things, it represents labor. He cannot secure fruit or vegetables as he can at home, by picking them in his garden. They have been transported by a vast aggregation of labor and capital, — the railroad.

Even the sky and air are not wholly as he sees them in the country, for the sky is blackened in every direction by the smoke of factories which are human beehives of industry, and the air is loaded with dust and dirt, stirred up by the rushing city life. The houses are not natural enough to be made of wood, but are of brick or some other manufactured product, which is produced by one group of laborers and then put together in the form of a house by another group of laborers.

In short, the man who comes to the modern city and looks at it from the standpoint of the economist, will find that natural things are at a premium, for labor has entered into the production of everything material, within the range of vision.

While labor has thus been essential in the making of every object that surrounds city life, it is not confined to the city by any means. The man plowing his ten-acre lot, the plow that he uses, his house and barn, his macadamized road, his asparagus bed and peach orchard, — all these represent an outlay in labor.

One of the most interesting things about our labor to-day is its coöperation in producing goods. The chair upon which you sit is the direct or indirect result of the labor of hundreds of thousands of men, women, and children. It was cut as standing timber in the woods of Michigan, with axes and saws that had been made in New England factories. It was hauled to a sawmill on bob sleds, the bolts of which were manufactured in Philadelphia and the steel runners in Pittsburg. It was sawed by a band saw repre-

senting the result of a long series of inventions, the final outcome of many years of labor, produced in a great factory, splendidly organized and employing 5000 men.

Then this sawed lumber was shipped to a furniture mill over a railroad employing 20,000 men, drawn by an engine manufactured in a distant city by a firm employing 30,000 men, propelled by steam generated from coal mined in West Virginia by a mining company employing 1000 men, in cars manufactured in St. Louis by a company employing 7000 men. When it reached the furniture factory, the lumber went through a great number of processes until it was converted into a chair, and each tool in each process was manufactured in a different city in a different part of the country by a different set of employees, and the tools which helped to make these tools and the tools which helped to make them, and the tools which came before this second group, assisted in the work. The finished chair was shipped on a great railway system to your city, where it was handled by a trucking company who delivered it to the wholesale house, who in turn sold it to the retail house, from which it was delivered to you. And the clothing worn by the woodsmen in Michigan and the ax makers in New England, and the furniture makers and the railway employees and the miners and all of the others who entered into the production of the chair, was made in New York City of cloth prepared in New England from wool sheared in Texas, with thread which was made in Paterson, and finished with buttons made in New Haven. And the machinery which sheared the sheep, shipped and carried the wool, made the cloth, thread, and buttons, and sewed the clothes, was manufactured by still another group of people scattered throughout the world.

From these illustrations it will be seen that modern life is essentially artificial, and in producing this artificiality, labor constantly plays a leading part.

In its importance to modern production, labor is secondary only to land. Without these two factors, production would

not be possible. Labor supplies the place to land that mortar does to bricks; it brings the natural resources together into a permanent structure. Without labor, land could not be used to satisfy human needs.

If, then, labor be so important in the developments of industry which result in prosperity, we should have a care about the condition of this labor, about its well being, about its productiveness and its advancement. If the labor forces in the community help so vitally in the creation of prosperity, the labor forces should demand constant and careful attention.

As a nation we should look upon our labor force as the manufacturer looks upon his machines. It is a great aggregation of productive units, and if one unit be removed by sickness or accident, as a community we will have less to consume and enjoy. In reality the modern nation is a big business enterprise. If it is carefully conducted, if the natural resources of the country are cared for and not squandered, if the labor force is developed and perfected in organization and not injured or allowed to deteriorate, and if the capital of the country is well organized and administered, we shall have a highly productive nation. Of course, the converse of all these things is also true.

In Economics, when we speak of labor, we do not mean manual labor, but all the effort either mental or physical which is expended in producing economic utilities. The man who works with a pick and shovel is a laborer; so is the woman who works for wages with a needle; so is the man who works with the pen; so is the man who works with a brush; so is the man who spends his time in directing the energies of others in order that they may assist in production. All of these men are "laborers" in the economic sense, because, economically, the laborer is the man who expends physical or mental effort in the creation of economic utilities.

In any discussion it is desirable, in order to secure clearness, to classify the subject under discussion as broadly as

possible. We may, therefore, classify labor under three general heads: —

1. The man whose income is dependent upon the income of the business; that is, the owner, the organizer, who takes the risks incident to business ownership and receives what is known in Economics as profits.

2. Those who work as salaried managers, who direct without having the responsibilities of the business.

3. Those who work primarily for wages, either by the day, week, or month.

Upon these three groups in varying measure falls the burden of supplying the labor element in production, and the economic importance which is attached to each of them will be discussed in another chapter.

TOPICS FOR CLASS DISCUSSION

1. To what extent is labor essential in production?
2. Has society gained or lost from the increased artificiality of modern life?
3. What is the relation between the amount of labor expended on an article and its selling price?
4. Should labor be the sole element in determining the cost of an article?
5. Has labor become more or less important with the development of machinery?

CHAPTER XIV

THE MODERN LABOR FORCE

HAVING outlined briefly an idea of the meaning of the labor force, it is next necessary to obtain some impression of the way in which the modern labor force has been developed.

It is clear that American labor is wholly of foreign origin. We have never been able to persuade the American Indian to work, therefore the entire responsibility for the construction of the American industrial system, as far as labor is responsible for its construction, rests upon those who came to America from Europe, Asia, and Africa.

It will facilitate our attempts to understand the development of the American labor force if we go back to the colonial period and consider the character of the people who made up the colonial labor. In the New England colonies, which were settled largely by people from the British Isles, we find a Puritan element predominating, with its stern ideas of living and an abhorrence of pleasure and all kinds of levity. This group of people came largely from the town populations of England, and they were in their homes across the water well educated, with strong religious motives, high moral standards, persistent in their efforts to accomplish any particular end, and adaptable. These elements combined in the population to form a strong and persistent type of man and woman well calculated to overcome the difficulties incident to a new environment.

The best elements of the European population left Europe because of intolerance, on the part of the European governments, of new concepts and ideas. These people were

forced to leave their homes and their old associations because their ideas of duty, of religion, and of morality would not conform to the standard set by the government of England. They were therefore what we would call independent thinkers or individualists.

If we consider the immigrants from England, and later on those from northwestern Europe, the population of New England as a whole consisted of Anglo-Saxons, whose home institutions and racial ideals were so nearly alike that there was no difficulty in welding them into a homogeneous mass. Each new element which arrived from Europe was readily assimilated and formed a component portion of this mass.

In consequence of the intelligence, perseverance, individuality, and adaptability to new surroundings, the population of New England very readily conformed to the conditions prescribed by the New England geography and climate. They built ships because ship-building materials and harbors were abundant. They traded with the West Indies because the fish which they caught all along the coast formed a valuable commodity when transported to the southern countries. They carried on manufacturing because the numerous rivers supplied much valuable water power. In short, the New England population was built to measure up to the demands of the new surroundings, and to conquer them in a way beneficial to the population settling there.

While the people who came to New York, Pennsylvania, New Jersey, and Delaware were of a somewhat different group, the basic elements of the population were the same. The Quakers of Pennsylvania, New Jersey, and Delaware came from England largely. They were the earliest settlers, but they were soon joined by large contingents of Germans, Swedes, and Scotch Irish, who settled on the land and developed the agricultural resources of Pennsylvania and New Jersey and Delaware.

In New York the Dutch were the first settlers, and under their Patroon system they turned chiefly to agriculture.

They were soon reënforced by groups of English and German settlers. The general characteristics which prevailed in New England may be said to have prevailed in the Middle States during the colonial period. Many of the people who came to these colonies came because of religious intolerance and political persecution at home. They were, therefore, independent, thinking people, many of them skilled artisans. They came to America because they believed in a certain principle and were willing to sacrifice for it. If we add to these characteristics the fact that the people possessed the same perseverance and adaptability for which the New England colonists have become justly famous, we have a reasonable picture of the conditions of the Middle States.

The people of the New England Colonies and the Middle States developed industry rather than agriculture for two reasons — first, because their agricultural land was inferior in quality, and secondly, because the opportunities for developing industry were so abundant. Not only could ships be built, but fishing could be carried on profitably, and the colonists soon discovered that the deposits of iron could be worked, that hides could be manufactured into various products, that the textile industry was not only possible but lucrative, and that, in short, the country was peculiarly adapted to the development of a strong industrial system.

If we go now to a discussion of the conditions in the South, we will find an entirely different set of facts.

In the South there was the possibility for developing agriculture. Tobacco, rice, indigo, and, later on, cotton could be grown with great profit in all portions of the Southern States. While the South possessed industrial resources, it did not develop them, because agriculture formed the path of least resistance along which the Southern colonists naturally acted. It was easier and more satisfactory to acquire a piece of land and secure immediate returns than it was to erect a factory with the possibility of selling the product at some future time. In the North the land was given to individuals

for the asking, and it was theirs for all time. In the South, in order to maintain a profitable agricultural system, the land was laid out in large plantations. These plantations were worked by indentured servants and slaves.

Slavery did not prevail in the North, not because the people did not want slavery, but because there was no economic way in which the slave could be used. Slavery is possible only where a large number of men can be worked together under the charge of an overseer. In industry this is not possible, but it is possible in agriculture, and in consequence the South was able to use slaves in large gangs profitably. The labor force of the North was therefore composed almost exclusively of people who were working for their own advancement. The labor of the South consisted of three classes,—the large landowners, the indentured servants, and the slaves. There were, of course, numbers of free whites, but in the early development of the South the three classes already mentioned played the leading part.

In the North the forerunner of our modern industrial system developed. In the South there was no industrial development, but men turned their attention to the raising of agricultural products.

Up to 1840 our immigrant population was drawn largely from northwestern Europe and from Africa. With the exception of the slaves, all of those who came to America were members of one of the Baltic stocks. They had all developed their ideas and ideals in the same general part of the world and along the same general lines. In the North they were therefore easily assimilated and developed into a homogeneous industrial and social group. On the other hand, the presence of a foreign body of people in the South who could not assimilate with the whites, made the development of a homogeneous group impossible.

Between 1840 and 1850 the food shortage in Ireland sent millions of immigrants to the United States. Between 1870 and 1880 the political and economic disturbances in Ger-

many were responsible for the flow of millions of people to the United States. By 1860 the negroes had stopped coming in, but they already formed a great mass of the Southern population with which the North was still struggling.

Up to this time, then, northwestern Europe was responsible for furnishing the largest portion of the immigration of the United States. Since 1880, however, there has been a change, and the source of immigration has been gradually shifted from northwestern Europe to southeastern Europe. Besides this European shift, a large number of French Canadians have come into New England, while to the Central States have come Slavs and Italians. The Baltic countries of Europe furnished our early immigration. Later immigrants who have come to this country are of Alpine or Mediterranean origin. That is, they are less familiar with Anglo-Saxon institutions and less sympathetic with Anglo-Saxon ideals.

In 1900 there were, roughly speaking, thirty million wage earners in the United States. Of this number, six millions were born abroad, while five millions were born in this country, of foreign parents. A large portion of our labor force is, even at the present day, made up not of Americans but of foreigners or the children of foreigners. The problem which we are confronting, if we are to maintain the efficiency of labor, is to instill into this labor population the capacity for work, the power of application, the intelligence, energy, perseverance, and adaptability in developing the natural resources of the country which characterized the early settlers. It is probable that all of these qualities can be developed to a greater or less extent in the immigrant population. It is impossible to assimilate the incoming immigrants if these qualities are not developed, and the next few chapters will be devoted to the consideration of some of the things that are affecting the labor force and the development of these essential qualities.

TOPICS FOR CLASS DISCUSSION

1. Does the average street laborer work hard?
2. Of the street laborers that you have observed, which race works hardest?
3. What environmental advantages have American laborers over laborers in Europe?
4. Point out the most salient characteristics in the original labor force of the country.
5. Can a distinction be made between the original labor force of the country and the group of immigrants at present coming to the country?
6. Has the Anglo-Saxon race any peculiar economic characteristics?
7. Upon what grounds do Anglo-Saxons base their claim to leadership?
8. Is there any economic basis of "race superiority"?
9. Will Greeks, Italians, and Poles make good American citizens?
10. What steps can the country take to Americanize immigrants?
11. What traits do the immigrants possess that are not possessed by Americans?
12. Will immigration be of ultimate economic advantage to the United States?

CHAPTER XV

IMMIGRATION

IMMIGRATION is a modern problem. It is only recently that people have been free to move from country to country at will. Even to-day, it is a difficult and expensive process for subjects to secure permission to leave some of the countries of Europe and Asia.

These facts do not appeal strongly to Americans, because in the United States there is no restriction on movements from place to place; no officials interfere or question; and no passports are required. It is therefore difficult for us to think in terms of restriction on the liberty of immigration, yet such restrictions have always existed, and in some countries still exist. The Russian peasant who wishes to come to America must resort either to bribery or fraud to escape the high cost of securing a permit to leave the domain of the Czar.

The monarchs of the Old World wish to keep as many of their subjects as possible at home to insure the permanence of a large emergency army; and this necessity of military service is one of the great causes of emigration.

While in America we do not emphasize an increase in our military army, we do look continually for an increase in our industrial army. We depend upon it just as the European sovereign depends upon his military organization, and the incoming of a group of strong, willing workers makes a welcome addition to the ranks of the American labor force.

While it will be impossible to devote space to a history of the immigration problem, interesting as it is, it is well to remember some of its prominent features. In the first place,

the colonists were immigrants in the same sense of the word that the present Italian and Russian Jewish peasants who come to America are immigrants. The best element of the early colonists left the Old World because they could not secure there a reasonable toleration of their political or their religious views. They were men who had the courage of their convictions to such an extent that they were willing to leave their mother country and make a new home in a new world. They were, therefore, the elect from among the people in their own countries. They were the progressive people, the people who were willing to make changes, who were willing to go so far as to make a new home in order to inaugurate the changes in thought which they believed were right.

A study of our present immigrants shows that they are in many cases coming to America for the same reason. This is particularly true of the Jewish race, which is seeking to escape the oppression of European governments.

Until the last part of the nineteenth century, the immigrants to America had come from northern and western Europe. After the early colonists, the chief sources of immigration to the United States were Ireland, Scandinavia, and Germany. The world possesses, in our estimation, no more efficient and capable race of people than those living in northwestern Europe. Consequently, in securing them as citizens, we were securing the best people that the world had to give. In the last thirty years, however, a marked change has come over our immigration. The center of immigration to America has been gradually moving south and east.

There are three great divisions of races recognized in Europe, — the Baltic or Northwestern races, the Alpine or central European races, and the Mediterranean races. From the Baltic races we have secured the Scandinavians, the Germans, the English, and allied groups; the central European races furnish the Slavs and the Hungarians; while the Mediterranean countries give us the Italians, the Greeks, and the Syrians.

Beginning with the northern group, our immigrants have come successively from the British Isles, Germany, Scandinavia, from Russia and Austria-Hungary, and from Italy, Greece, and Syria. With this change in the source of immigration from the northwest to the southeast there has been a corresponding change in the character of the immigrants themselves.

The Baltic races were more educated, more easily adaptable to new surroundings, and in addition to these two valuable characteristics, furnished a large number of skilled artisans and mechanics. In contrast with them we have the Alpine and Mediterranean peoples, among whom illiteracy is the rule rather than the exception, and who do the unskilled work of the country. From the Baltic races we secured the skilled wage worker to a large extent. From the Mediterranean races we are getting unskilled workers.

The questions as to whether one race is more efficient industrially than another is a debatable one, and at present scientists are not agreed as to whether one race is ultimately more capable than another. Whether or not this be true, we know one thing regarding the character of our immigration: the immigrants from northern Europe are, as a rule, more highly civilized, that is, better adapted to our standards than the immigrants from south Europe. The north Europeans are more easily taught our political and industrial methods than are the people from the southern and eastern countries, because it was in the northern and western parts of Europe that our present institutions were developed and partially perfected.

On the other hand, there is a question as to whether the various groups of immigrants are not bringing to this country something which we have never had here before. For example, it is alleged that the Polish race is essentially musical and that its æsthetic standards are very high; it is well established that the Russian Jews are of a very high standard intellectually; and there is evidence to prove that

the Italians are bringing to America artistic tastes in which the present inhabitants are largely lacking.

If these various qualities, which have been more highly developed in some countries than in others, can be combined with the industrial efficiency of the American, the result will be a race of people more advanced than the world has ever before seen.

Apart from the contribution which the immigrant himself makes to our country, what is his effect upon the wage-working part of our population? Leaving out of the question the children of the immigrants who enjoy the benefit of our public school system, and considering only the immigrant himself, it is clear from what has been said that he can have little or no effect upon anything except the semi-skilled and the unskilled labor force. He is almost never calculated to take a position as a skilled worker. Such a general statement is liable to many exceptions. Our most skillful tailors are now coming from Russia and Italy. Many Italian peasants make excellent stone cutters. Nevertheless, speaking generally, the immigrant is classed as unskilled labor.

The Russian, Hungarian, or Italian immigrant comes from a country where the standard of living of the working population is very low. To him windows and doors are a luxury. In some places in Russia floors are likewise considered a boon. To many of the immigrants the tenement houses of our great cities are a paradise when contrasted with the conditions in which they live in Europe. The immigrant will work for a very low wage because he is used to existing upon a small amount of food and with a small amount of clothing. Consequently, the presence of large numbers of immigrants in any community will result in a temporary lowering of the wage standard. At Phœnixville, Penna., in 1906, the wages of common labor were $1.08 per day, and this, as one Scotchman very savagely said, was "all due to them Hunkies," referring to

the Hungarian population of the town. In many other localities the standard of the common labor wage has been kept low by the presence of the immigrants. As a result of such conditions, it is very rare in those localities to find American-born persons doing the common labor, for the reason that, accustomed to a high standard, they are unable to exist on such low wages.

In the long run, however, it is very probable that the presence of the immigrant does not result in lowering the wage standard, because with a little education, or at least with the entrance of his children into the schools, he learns something of American customs and ways of living. As a result of this wider view of life, he is raised up from the old standard of Europe to the new standard of America and he adopts the American standard out of preference for its obvious advantages.

TOPICS FOR CLASS DISCUSSION

1. What effect has immigration on the unskilled labor wage?
2. Why does the immigrant have less effect upon the skilled than on the unskilled labor wage?
3. Would it be desirable to bar out all Chinese and Japanese immigrants?
4. Would it be desirable to exclude from the United States all persons of foreign birth except diplomats, merchants, travelers, and scholars?
5. Account for the low standard on which the immigrant is willing to live.
6. Point out the economic effects of immigration in the United States.
7. Would the American labor force be more efficient without the immigrant?
8. How would heavy unskilled tasks be performed if the immigrant were excluded?
9. What is the underlying reason for permitting immigration into the United States?

CHAPTER XVI

CITY LIFE

One of the most interesting developments of our modern industrial civilization is the flow of population toward cities, and there are perhaps no influences in the community which have a more marked effect upon the character and ability of the laboring population than the problems arising out of city life. For generations the country boy has gone to the city to make his fortune. He leaves the farm because it presents neither the excitement nor the means of securing a livelihood that is presented in the city. One in a thousand of these boys succeeds in making the fortune he sets out to find. That one example is held up; the nine hundred and ninety-nine are forgotten; and another thousand, and thousands of thousands flock to the cities to participate in fortune making.

Then there is another influence that has recently aided in the rapid development of the cities; namely, the inflow of immigrants who, during the past few years, have been coming to America sometimes at the rate of a million a year. These immigrants of necessity go to the city, because the foreign steamships arrive only at large ports. Figures show that in 1900 there were in New York City 785,000 persons of German descent, while the native population numbered but 737,000. There were also in New York 710,000 Irish, an equivalent of the population of Dublin, two and a half times as many Jews as there are in Warsaw, and one half as many Italians as there are in Naples. In Chicago there are nearly as many Germans as in Dresden,

one third as many Irish as in Belfast, and one half as many Scandinavians as in Stockholm. A newspaper writer finds in New York sixty-six languages spoken, forty-nine newspapers published in foreign languages, and one school at Mulberry Bend with children of twenty-nine nationalities.

One fifth of our entire population lives in the thirty-nine cities of the United States which contain 100,000 population or over. These cities, with one fifth of the total population, contain two fifths of the population of foreign parentage; and only one tenth of the native population born of native parents. In other words, there are in our large cities four times as many foreigners and three and a half times as many native born of foreign parents as there are native people of native parents. Thus we see that the cities of the country are the goal of a great number of immigrants as well as of the bright lad from the farm.

These two forces, the movement from country to city and the influx of immigrants, when combined, build up our city populations at a tremendous rate. If you add to these the fact that many of our great industrial establishments are situated in large cities, it becomes apparent that the city life is inevitable under modern conditions and that it is becoming increasingly so.

In the case both of the country boys who come to the city and of the immigrants who come from abroad, people are placed in a wholly new environment. Their surroundings are unusual, and the problems which they have to face differ materially from the problems which they faced in the country districts of America or in the country or city districts of Europe. In other words, the movement to the cities necessitates a complete readjustment of ideas and habits. As was pointed out in the beginning of the discussion of labor, the city is essentially artificial, while the country is essentially natural. To use the current phrase, "God made the country, but man made the town."

These people, placed in an unnatural environment, must

act in a different way from the way in which they have acted in their old environment. The country boy has thrown snowballs and baseballs at will. In the city his action is restricted. He may not throw upon the public highways, because there is danger of injuring some of the passengers. The farmer in the country may put his vegetables on a wagon and peddle them in the neighboring town. In the city he may not peddle vegetables without securing a city license. In the country, if a man so desired, he might keep his pig and his chickens under the house or in his kitchen. These things are not allowed in the city because they are offensive to neighbors. In short, a man's liberty is restricted in the city by a great number of laws and regulations which had no existence in the country because they were not needed.

Under the circumstances men are required to greatly restrict their accustomed activities, and in making this change from a natural to an unnatural environment, problems arise: the problem of the children; the problem of the tenement; and the problems of water, light, and transportation.

In addition to the fact that city life is artificial, the second noticeable thing about it is the great distinction between the rich man and the poor man. In the country districts, incomes do not vary greatly. In the city, the divergence among them is exceedingly marked. The laborer on the street receives $500 a year and lives in a tenement. The captain of industry or the insurance president receives $500 a day and lives in a palace. One man walks to his work or rides in a trolley car, the other goes in an automobile. One man is provided with the barest living, the other with all the luxuries purchasable in modern society.

This distinction between incomes, which has grown so remarkably in the past few years, leads logically to a third distinction; namely, the division of the population into social classes. In the country, the hired man ate at the table with

the family. If there was a hired girl, she did likewise. In the city, the hired man may be either the gardener sent by a large employer of labor to attend to the lawn or he may be the chauffeur employed to run and clean the automobile. In neither case does the hired man come within sight of the dining room, much less does he eat with the family. In truth, the family would be shocked by the very thought. The hired man lives a life apart. He is a man whom the family will neither recognize nor associate with in any way. The hired man of the country is a man, while the hired man of the city is a servant.

The distinction is brought out very clearly in the method of treating passers-by in the country and city. Every true countryman salutes every man whom he may pass upon the highway, and says, "Good morning," "Fine day," or uses some other expression of good will. In the city it is nothing unusual to find people who do not know the family living next door to them if they own a separate house, or the family living above or below them if they rent rooms. In the country every one knows every one else's business; in the city the rule of the road is "Mind your own business."

Then the average work of the city is deadening. There is very little in it to stimulate enthusiasm or interest. The work of the average city man is minutely subdivided and therefore monotonous. The various streets of the average city are exactly the same and therefore monotonous. Likewise its houses are built in rows of the same texture and the same external appearance. Its days vary little, — when it rains there is no mud; snow is removed by the sweeper; and the spring thaw is unknown. In short, the whole city life is a round of sameness and a rushing whirlwind of existence which leads to no apparent result and leaves its victims prostrated and incapable of enjoying life.

As has been already pointed out, city life is supplied from outside. City energy comes from rural districts or from immigration. Emerson has very justly said that were it

not for the country, the city would have rotted out and exploded long ago. City existence contains little which will revive and regenerate, as contrasted with the existence of the country.

We cannot conclude from this, however, that the effect of city environment is wholly bad. Our suburbs and the development of suburban life are furnishing outlets for those of the city population who can afford high rents or the payment of high car fare. Even within the city, the effect of city environment differs materially, as the following table will show: —

STUDY IN CHICAGO, 1900

	Hyde Park	Stock Yards
Mortality	10.65 per 1000	14.21 per 1000
Mortality under 5 years	25.7 per 1000	38.7 per 1000
Asked relief of charity society	106	1726
Percentage of school children in 1st grade	12.5	17.9
Percentage of school children in 8th grade	8.3	3.6
Saloons	20	500
Average rent	$25	$10
Average income	$2500	$500

From this table it will be gathered that the very poor are the ones who suffer most acutely from city life. Among them mortality and rents are heaviest and school attendance and incomes lightest. They are the ones who feel the grind of its subdivided industry and the pinch of its poverty. The question very naturally arises, therefore, why do people congregate in the cities, and particularly these poor people? Perhaps the best way to answer the question is to say that they congregate there in most cases because the city presents the best chances for work. Taking all things into consideration, the steadiest and best-paying employments are found in the cities. Cities grow because of some peculiar natural

resources, such as the harbor of New York or the coal and iron mines and river transportation of Pittsburg. As has been stated, the development of our modern civilization will inevitably result in the development of cities, and the development of cities under present conditions means for the majority congested living. The movement to the suburbs is limited to the comparatively wealthy. The man who makes $2 a day or less — this includes the majority of the population — must stay in the city, particularly if his hours begin early and do not end until late in the day. This centralization of industry and the impossibility of living far from work results, as has been stated, in our tenement house problem and slum problem. And, in truth, the problem is a serious one. In New York there are squares containing 5000 people, or in the neighborhood of 1000 per acre, and it is stated that in the one square mile of New York's East Side 200,000 people live. Obviously, conditions of this character do not tend to produce the highest type of humanity.

The visitor to the East Side who sees children of two and three years of age standing on the fire escapes of the third and fourth story of a tenement house and playing with the iron bars, cannot help feeling that they are occupying a position very similar to that occupied by the caged birds. Their energies are restricted to a serious degree. The children who are old enough to be allowed out on the street play in the gutters or on the sidewalks, rolling under the feet of passengers and now and again under the feet of horses. In one evening on Avenue B, near Eighth St., in New York City the writer counted 375 children playing on the street in one square, and all of them appeared to be under fourteen years of age.

These children do not come into contact with one natural thing. Their environment has been created by man. Were this environment created for the purpose of producing good children, the problem would be less serious, but the creation

of the environment was due to the desire to save money, and in the process of saving or making money the children suffer.

Furthermore, modern industrial life in a city is very tense and nerve-racking. People hurry. It is most interesting for an outsider to go into New York and watch men and women coming in to work in the morning. First, they run for the train or trolley near their home; then they leave this vehicle and run for the ferry boat; as the ferry boat nears the dock, every one crowds to the end, and the moment the gates are raised the whole mass of humanity runs for its cars; then, upon getting off the car at his destination, the passenger runs to his place of business, and all day his business life is a series of little runs, interspersed with short breathing spells. Such continuing of activity naturally results in a reaction, and this reaction expresses itself in the reading of exciting newspapers, visiting exciting theaters, and doing exciting things which lead into unwholesome surroundings, all of which tend to lower the moral tone of those who indulge in them.

In a static society, like that of the country, where every one knows every one else's business, people are apt to avoid doing anything wrong for fear of the certain censure that would at once be meted out to them by all of the members of the group to which they belong. People going into a new environment, where they are unknown, do not hesitate to do things which would be unthought of in their home environment because "nobody will ever find out." So the college man coming from a small town to a large city does things in the city which in his home town he would not dare to do.

People coming from abroad or from the country districts into the city are released from all of the restraints which bound them in their former home. The city is described as "bad" morally, simply because people are acting unrestrained by any social customs or usages. That cities present business opportunities to ambitious men is unquestioned. That certain ambitious men take advantage of these opportunities and rise high in our industrial society is proven

every day; but for the average man city life is a burden grievous to be borne.

In this country we have not as yet noticed the effect of city life on our city populations, because they have been shifting ones. This is particularly true of the immigrant who comes into New York City for a few months or a few years and then moves on to some other city or some smaller town. In London, on the other hand, the slum population has existed for several generations, and a type has been created, the Hooligan specter of England, for he can neither work nor serve in the army. He lives and eats and dies, all at the expense of the community. He obstructs the streets and begs or is cared for by the authorities, and his children follow in his footsteps. In short, if we allow our cities to develop unrestrained, they will be developed to the temporary benefit of industry and the ultimate detriment of humanity. The children will continue to play on the fire escapes and the people will continue to live in the tenements, without proper sanitation, without proper heat, without proper health regulations, all because we allow our progress in industry to interfere with a development that will lead to permanent industrial supremacy.

Nevertheless, this kind of industry will not be found good in the long run, and the men who are worn out by life in the city and the children who have never known what natural life was, will not form the kind of citizens upon which the country can depend, either for its industrial supremacy or its supremacy in a military crisis.

Granted that the city problem is a problem of vital importance to the country and that it is growing because the city has come to stay; granted that the city is an economic necessity, — what can be done to make life in the city as beneficial as possible, as free as possible from the restraints which an unnatural environment puts upon it?

Perhaps the first thing should be the providing of cheap transportation. As cities grow, it becomes more and more

difficult for people to live near their places of business. Not only does it become more difficult, but it becomes more unnecessary. We do not want our city population congested, and as cities grow, it is easier and cheaper to provide transportation because there are more people to assist in paying for an efficient transportation service. If fares are three cents instead of five, it means that a large group of people in the city will be able to move out into the suburbs and thus enjoy the benefit of country recreation together with the benefit of city work. This can be brought about only through the establishment of systems of cheap and efficient transportation. The ideal of such transportation must be not profits to the company, but service to the community. As to whether this service can be better performed by a private corporation or the municipality, we shall discuss later on. One fact is clear, — it should be performed.

In the second place, we can provide decent houses, sanitary, with water facilities in all parts of the house, and sewer connections. It is not necessary in order to develop city life that the sewage of a tenement house be emptied into the cellar. This is merely an incident to city life which can be done away with through proper legislation and municipal inspection. Houses can always be kept clean by the same method.

In the third place, we can keep the streets clean, and the air free from dust. There is nothing economical or common sense in sweeping up dust on the streets, allowing it to drift into the houses, sweeping it out of the houses, and again allowing it to drift back into the street. Dust on the street should be picked up, not swept up. The carpet sweeper and the compressed air method of cleaning have succeeded in picking up dust in the houses, and the problem of picking up dust in the street has already been solved abroad. It remains for us only to expend sufficient money in this country to accomplish it.

In the fourth place, we must provide water fit to drink and

use. Country people would not wash in the water which the people in some cities are compelled to drink. It is not generally realized what a burden a long-protracted case of typhoid fever throws upon the poor family. Even when the case is taken care of at the hospital, the removal of the wage earner for a month or more means that the family will be in want before the time expires unless their case is exceptional. Furthermore, it is expensive to have people sick. The sick man does not produce, but he does consume. In other words, he is taking out of the community commodities which he does not assist in replacing, and is therefore lowering the surplus of the community. From the standpoint of everybody, we cannot afford to have people sick.

In the fifth place, people in the cities should be provided with cheap light and heat so that their cooking can be done reasonably and well and their expenditure for fuel may be reduced to a minimum.

Here, then, we have the problem of the city population with its possibilities for happiness and its possibilities for misery, and it devolves upon society to decide whether the happiness or the misery shall predominate. If the happiness predominate, our city population will be an efficient one. If the misery predominate, the population will be inefficient.

TOPICS FOR CLASS DISCUSSION

1. Why has the city assumed a leading place in American life?
2. What leads people from the country to the city?
3. Why does the immigrant remain in the city?
4. Is city life necessarily harmful to unskilled workers?
5. What improvements could be made in your own city to make more desirable the lot of the average city dweller?
6. Is the tendency of city life toward democracy?
7. Should the movement toward the cities be encouraged?
8. Is it true that the average man in the country is more vigorous mentally, physically, and morally than the average man in the city?
9. Are our great men necessarily "country boys"?
10. What will be the outcome of the movement toward the city?

CHAPTER XVII

THE SCHOOL

Those who progress sufficiently in their academic work to take a course in college usually do so for the purpose of making themselves more efficient producers, or, to state the matter differently, they take their course in college in order to increase their earning power. An increase in earning power means that the individual has learned to render a greater service to the community, to become more efficient. In taking a college course we recognize the fact that education is a great aid in increasing the producing power or efficiency of the labor force. As a result of college education, the average man goes out into the world of business and is a more effective worker than if he had started in the world of industry directly from the high school.

This idea of the value of education in industry is, however, a distinctly modern one. Although we boast of our public school system, there are many remote districts in the United States where it is difficult or impossible for children to secure school accommodations, and the growth in some cities has resulted in a half-time system, and in some cases in the exclusion of children from schools.

The concept of a free education for all is a distinctly modern one. The free common school of the United States is not a century old, and in some European countries it has not been introduced at all.

Up to 1860 the educational system of the United States was not developed to any extent, and history abounds with the names of men who rose to high positions without the

advantage of having secured a complete or even an elementary common school education. Perhaps the best known example of this is Abraham Lincoln, who secured most of his education outside of the school.

This type of man is now the exception — not the rule. Many businesses are run on a "college man basis"; that is, they employ men with a college training in preference to men who have not secured such a training. While this is now particularly true in the various departments of the engineering profession, it is becoming more and more true in the world of general business. The 1860 attitude that "experience is the best teacher" has given place to a firm conviction that a good education is not a luxury, but a necessity to business success.

Up to 1860 the negro population of the South was denied an education because there was a general feeling that an educated slave population would be far more apt to revolt and would therefore be far more dangerous than an uneducated population. Since 1860, however, the South has taken up the question of education, and has made greater strides in developing its educational system than any other section of the country, although the system is still behind the other sections in efficiency.

Until recently the population of the South has been almost wholly agricultural, while the education has been of a scholastic nature. Many of the freed negroes, therefore, conceived the idea that if they could but learn Latin and Greek, they would be exempt from work during the remainder of their lives.

The most successful attempt to develop an educational system that would meet the needs of the situation has been made by Booker T. Washington, in his school at Tuskegee. The essential portions of his curriculum do not center about Latin and Greek and History and Mathematics, but rather about agriculture and the useful crafts. He takes the negroes from the farms and cities where they have never learned any-

thing useful and teaches them to be good farmers, bricklayers, or carpenters. In addition, he holds conventions in the neighborhood of Tuskegee which are attended by large numbers of farmers, who are addressed by experts on questions of scientific farming. In short, Booker T. Washington has made an attempt, and a successful one, to make the education fit the needs of the population.

Our school system is, then, a development of the past half century, and we have not yet reached a point when we look to it for our industrial training.

The change in education from a study of the classics to a study of practical forces has not been confined to Booker Washington's experiment. It has been a national movement. At one time men believed that colleges should teach only the classics. Gradually, however, the objects of college education have been broadened and diversified by the addition of special courses, such as those dealing with engineering, chemistry, and business methods. In fact, it has become the object of the college to teach men the science of the things with which they will deal later on in life.

The development of these special courses in college, largely effected since 1850, has had several important influences upon college education. In the first place, it has enormously increased the college attendance; in the second place, it has greatly aided the scientific development of the subject taught in college; and in the third place, it has put many branches of business on a "college man basis." That is, the business man prefers to hire a college-educated man. This attitude has resulted in many lines of industry opening for college men, and in responding to these demands, the college has broadened its scope still more.

As has already been pointed out, the effect of college education is felt particularly in the development of managers and sometimes of organizers.

The question of college education is an important one, and each year it becomes more so, because each year the

college broadens its scope and each year more men are able to take the courses offered in college. But most people do not get to college, — not one per cent of the students who enter our public schools, — so that in discussing the effect of our educational system on the labor force, we must lay our chief emphasis on the lower schools, which alone reach the vast majority of American children.

With the exception of the introduction of kindergarten training the elementary schools have been changed very little since their inception. The elementary school teaches the Three R's, — reading, 'riting, and 'rithmetic. The high school and college courses are considerably advanced, but for the average member of the community who stops with the grammar school, few variations have been made.

Y.M.C.A. classes, business schools, correspondence schools, and evening schools have been organized to provide education for many of those who wish to take low or medium salaried positions, but in some industrial communities where 75 per cent of the population belongs to the unskilled or semi-skilled labor groups, neither the college, business school, nor any other higher school is of value. In these populations the essential thing is to give a rounded training in the first six years of school life, because many of the children begin work at fourteen or earlier. This need is particularly emphasized in industrial towns, with populations of from two to twenty thousand. In these towns the courses furnished by the schools are monotonous and uninteresting, and to the average child and parent, unprofitable. Consequently, children drop out at an early age or go through school deriving little benefit from the education which they receive.

The children, the sons and daughters of wage workers, are given an education the primary object of which is to develop good school teachers. The average American boy prides himself on "doing things," and when he is set down on a wooden bench for several hours each day and told to study from a dry and, to him, uninteresting book, he resents

the insult and appeals to the home authorities, who, desiring the income which the child may bring in, and unable to spend enough time to persuade him to remain in school, soon yield to his importunities and allow him to go to work. Thus the boy who leaves school at thirteen or fourteen and enters a factory is neither a better producer nor a better scholar for having gone through a portion of the educational system.

A glance at school walls or benches will convince the observer that the average boy wants to use his hands. This seems but logical, since the average man is required to use his hands all through life, and yet between the kindergarten when it exists — and the manual training high school — where it exists — no opportunity whatever is presented to the healthy, normal boy who wants to do hard work. Under these circumstances, it is small wonder that the pocket money and freedom incident to work prove infinitely more attractive to the average boy than the dull monotony of school life.

The girls in our school are on a slightly different basis from that occupied by the boys. The average girl in America will some day be called upon to keep a house, prepare food and clothing, and in other ways render the habitation homelike. The average woman in America does not know how to do these things properly, and she cannot therefore teach her daughter scientific methods of home making. As the common school furnishes no possible clew in this direction, the girl leaves school and either goes to work in a factory or stays at home until she is married, after which, having no idea in most cases how to go about her work in the home, she renders it more or less unsatisfactory for her husband and children. We complain of unhappy homes, and seek their cause in every direction but the proper one; namely, training of the future wives and mothers.

What would we think of sending an army to meet a foreign invader of which neither the leaders nor the men had received instruction in the methods of conducting a campaign? Against such a thing we cry out in horror, and yet every

year hundreds of thousands of children are born to mothers who have no more idea of the proper method of caring for a child than an untrained man would have of conducting a military campaign. To be sure, these mothers learn in time, but too often failure is their teacher.

As a nation, in time of peace, we prepare for war, but the mainstay of any nation in war or peace, its men and women, are being constantly born into homes and brought up by mothers who have no concept of scientific methods of caring for, feeding, or educating a child.

It is not that these things have not been studied and put on a scientific basis. Men have given their lives to working out the problems connected with them, and with marked success. The school system simply fails to train the child to meet its life responsibilities, and in so far as it fails to do this, as a school system, it is a failure.

The conclusion of the whole matter is, therefore, that our school system needs to be radically changed if it is to cope with modern conditions in a modern way. In the first place, it is the duty of the school to act as a connecting link between the home and the future pursuit of the scholar. As has been pointed out, there is not the remotest connection between the school life of the average boy or girl and the after life of the same individual. They are two distinct things with no connection between them. The perfected school system would present such a connection, taking the child from the home at six years of age, and turning the same child into the world at sixteen or eighteen years of age, prepared for the work of life; teaching the boy things that would make him not only a good school-teacher, a good railroad president, or a good senator, for all of these trades are limited in numbers, but teaching him to work well as a skilled or an unskilled wage worker, with his brains as well as with his hands; turning out boys who would make skilled mechanics, thorough miners, and competent weavers, for all of which the demand is active.

Going hand in hand with this necessity for a relationship between the boy's school life and his after life, is the necessity for the intimate relation between the girl's school life and her after life. If she would keep a good home and have her husband stay away from the saloon, her house must be neat, her food well prepared and palatable, and her own appearance attractive. There is an intimate connection between a disorderly house, a slovenly housewife, and tough meat for supper, and a long session in the saloon after supper. These things may not all of them be remediable through school education, but at least our school system can make an attempt, which it does not make now, to remedy them. Then, too, the girl should be provided with a training that will fit her to be a good mother, to care for her children judiciously, to feed and clothe them properly, and to educate them wisely. The germ of life's character is developed in the first seven years. Those first seven years should therefore be guarded and guarded with the utmost care.

There is another way of looking at the matter. The old apprenticeship system has gone from industry. We no longer take a child into a business and teach him or her a trade. The child goes into business to do one small operation in the productive process. This fact arises from the development of a system of division of labor, and the application of power to industry, but aside from the cause of the condition, the condition itself is with us, and if we are to maintain a labor force, skilled, capable, and highly intelligent, the foundation of that skill and intelligence must be laid in a school system which prepares the worker for his work.

As has been pointed out, the average school does not afford this training and therefore does not hold the scholar. It is no accident that 75 per cent of our public school children are in the first five years of school.

The possibilities of a school system for the development of a high standard of efficiency in both boys and girls are infinite. Thus far the American school system has failed to measure up to its possibilities.

TOPICS FOR CLASS DISCUSSION

1. What should be the purpose of education?
2. Should there be definite connection between the school life and life in the world?
3. What does the school in your community do to prepare boys for the work of life?
4. What life preparation does the school furnish for girls?
5. Should manual training be introduced in all grades between the kindergarten and the high school?
6. Should the public school include a scientific domestic science training for girls?
7. Is universal education a good thing?
8. What advantages and disadvantages would accrue to the country if free education were abolished?
9. Would it be wise to make it possible for everybody who wished it to secure a university education?
10. What has the college done to prepare men and women to meet the work of life?
11. What is the economic basis for education?

CHAPTER XVIII

CHILD LABOR

In the last fifteen years people in America have begun to talk about the question of child labor. It has been discussed by labor unions, women's clubs, and educational authorities, and is now one of the popular economic questions of the day.

The question is being discussed as if it were a new one. As a matter of fact, it is as old as the factory system, and has developed with the development of the kind of machinery which requires mere mechanical attention and no skill, strength, or ingenuity to operate it.

The child-labor problem assumed its first importance in England, and it there developed in its most extreme and disgraceful form. When the act to regulate the health and morals of apprentices was passed by Parliament in 1802, evidence was introduced into Parliamentary Committees to show that the poorhouses and orphan asylums of England were in the habit of getting rid of their children to manufacturers, and that in some extreme cases the latter agreed to take one insane child with every twenty healthy ones. These children were quartered in barracks and worked on day and night shifts, the day shifts sleeping in the beds which the night shifts left, and *vice versa.* The children were fed on the worst kind of food, and the sanitation of the barracks was notable by its absence. These conditions of life led to the outbreak of epidemics and of disease which called the public attention to the evil and led to the passage of the act of 1802.

However, this did not in any way assist the free children whose fathers and mothers were willing to allow them to go into the cotton mills and work at any age from six or seven years and up. It was not until 1847 that a really effective law was passed prohibiting the labor of the younger children and regulating labor of all women and children employed in industry.

The manufacturing interests were solidly opposed to the passage of any legislation, holding to the policy which England was then pursuing of imposing no legislative restraints whatever upon the development of industry. However, after several parliamentary committees had investigated conditions of the working population, the revelations of degradation and hard working conditions were so startling that it was practically impossible to resist the demand for some kind of factory legislation.

In Germany and France the problem took a somewhat different course, but there the factory system did not develop as early as it did in England. These countries, therefore, had England's experience to direct them, and, in addition, it was found in the early development of the factory system that the factory population were failing to furnish as effective soldiers as the agricultural population. This fact led to investigations, which showed that in some districts of France, for example, an agricultural district furnished twice as many qualified soldiers per thousand men drafted as a near-by factory district. These discoveries led to the restriction of child labor at an early period, and in consequence the problem never developed to a serious extent in either France or Germany.

In the United States the problem is of recent origin, because it is only within the past half-century that we have developed our factory system sufficiently to permit of the employment of many children. According to the census of 1900, one and three-quarter millions of children between the ages of ten and fifteen years of age were engaged in all kinds of gainful

occupations. One million of this number were working in agricultural pursuits, and the other three quarters of a million were engaged in manufacturing and mining, domestic service, professional service, and trade and transportation.

The child-labor problem has assumed a particularly acute form in the South, where a large number of "poor whites" from the hills have gone down into the districts controlled by the newly erected cotton mills, and the whole family has gone into the mill, with the exception of the father, who, in some cases, carries the dinner pails to the children and draws the pay for the family on Saturday night.

It is generally conceded that the effect of factory work on the average child under fourteen or fifteen years is bad. In the first place, we have come to believe that in order to be an efficient member of society, every person should receive at least a minimum amount of education. The child who stops school at an early age and goes into the factory and works for long hours at some monotonous task not only does not learn, but actually forgets what little schooling he was able to secure before going to work.

As to whether the moral atmosphere of the factory is bad for the average child is a question that has been discussed vigorously from both sides. There can be no denying the fact, however, that a child of tender years who is placed in contact with grown men and women of all kinds is in a position to learn many things which would not be learned from either school companions, school teachers, or members of the family at home.

The effect of factory work on the physical make-up of a growing child is apparent. The natural tendency of the child is to play. It is through play that children grow and develop both mentally and physically. Play involves a change of occupation at the will of the person who is playing. In contrast with this activity, the essential thing about modern factory work is that it is monotonous, long continued, and continued at the will not of the worker but of the boss or

foreman. The child in the factory is given mechanical things to do because of his lack of skill and ability to do better things. For example, he may turn in the edges of a box cover, tie a broken thread on a spinning frame, sort out pieces of iron to be made into bolts, or a thousand other mechanical operations which form a part of modern factory work. The child who is compelled to do one thing for a thousand or five thousand times a day, day after day, week after week, does not grow and develop either mentally or physically, but is stunted in both directions.

In short, it is fair to say that the child who is working is, as a rule, not developing intellectually, may be degraded morally, and is apt to be stunted physically. The maintenance of an efficient labor force in the community requires a development in each person of mental, moral, and physical traits, and from the standpoint of society, we cannot afford to continue a system which, by working a child at an early age, renders him a less efficient producer for the rest of his life.

Aside from the effect of factory work, it is interesting to note that child labor means for the time being at least a decrease in the amount of labor which may be had by adults. For example, in England before the factory system began, men of skill and ability were required to do the spinning and weaving. The moment an invention was perfected which enabled a machine to do most of the work, and simply required mechanical attention to see that the threads did not break, it became possible to dispense with the skilled man and employ an unskilled child. In other words, labor-saving machinery tended by children results in depriving adults of their places in this particular occupation. A well-known illustration is given of a shoemaker in Massachusetts who was working in a factory for $2 a day. A machine was invented and put in operation which did the work, and this man was dismissed and his son of fifteen employed at $1 a day to tend the machine.

The effect of child labor on family life, and therefore on the social structure, is, to say the least, detrimental. This is particularly true of girls from twelve to fourteen who go to work in factories, and from that time till they are married are employed in factory work from nine to eleven hours per day. They have no opportunity whatever of learning home duties, and when the time comes for them to marry, as it usually does, they will be less efficient housewives and home makers than if they had secured either at school or at home some training that would prepare them for their lives as wives and mothers.

It may seem an odd thing but it is at least interesting to note that child labor is always more prevalent in new industries and in new communities which for the first time are developing industries. In the old communities, manufacturers, as a rule, refuse to employ children under fourteen and often under sixteen, on the ground that a child under sixteen is so unintelligent, irresponsible, and reckless that it is apt to waste more than it makes. Such a child is so inefficient that a man at twice the salary can produce far more than twice the product. It is a well-known fact that goods manufactured in the South, where child labor is prevalent, bring a lower rate in the market than goods manufactured in the communities where there is not so much child labor employed. The community is very generally coming to believe that child labor is not only cheap labor so far as wages are concerned, but it inevitably results in a cheap product, — cheap both in price and in quality.

From a national standpoint, therefore, the employment of small children to do the work of the world is a mistake because it inevitably leads to a depreciation in the quality and character of the laboring force of the community: first, because it impairs the ability of the child; second, because of its effect upon the home and social life; third, because it affects adversely the wages of adult labor; fourth, because it results in a poorer product. From every standpoint, child

labor is detrimental and should be strictly suppressed in the interest of the coming generations.

TOPICS FOR CLASS DISCUSSION

1. What is the chief evil of child labor?
2. Discuss the benefits of child labor from an economic standpoint.
3. What are the effects on children of early employment?
4. What effect has child labor on the adult laborer?
5. Is child labor necessary to produce great captains of industry?
6. What is the effect on children of keeping them away from work for wages until they are sixteen?
7. Who is the chief gainer from child labor?
8. Who is the chief loser?
9. Do manufacturers cause child labor?
10. Are parents responsible for child labor?
11. To what extent are the children themselves responsible?
12. What attitude should society take toward the child-labor question?
13. Outline the economic effects of child labor on the community.

CHAPTER XIX

WOMEN WHO WORK

In 1900 there were about 5,000,000 women working in gainful occupations in the United States. Forty years ago, women were a negligible quantity in most industries. In 1900 one sixth of those gainfully employed were women, and there was no important branch of industry in which they were not engaged.

The effects of the entrance of women into industry have been variously estimated, but the causes are obvious. In the first place, the development of modern industry has permitted a minute subdivision of labor which gives each person in an industry a very small and definite operation to perform. For example, a girl may paste corners on paper boxes, or watch a spinning frame to see that the threads do not break. These operations are largely mechanical and require speed and dexterity rather than mechanical ingenuity. In the modern factory, a regular machinist is employed to see that the machines are in good condition and running properly, while the operating of each machine is done by one who knows nothing of its mechanism but has mastered the art of tending to the needs of that particular machine. The operator may sew one seam on a pair of overalls, or put buttons on a coat, or stamp out pieces of paper to make Christmas cards, or do any one of a thousand things, each of which is simple, and acquirable in a short time. A girl of sixteen or eighteen can go to a factory and in a few days learn to manage a machine without having any previous training or apprenticeship. To be sure, her efficiency will not be high during

the first few months, but she can at least make a living at the work.

In the second place, this minute subdivision of labor permits of what is known as the standardization of industry. Each of these small operations becomes fixed or standardized. No experience is required to manage a certain machine; the work can be learned in a short time; and anybody with a small amount of training can carry on this part of a productive operation. It is not necessary to keep the same person at work on the same machine, for so long as the machine is kept going, production continues. That is, production depends not upon the individuality of the worker, but rather upon the continued operation of a standard machine.

The third reason for the entrance of women into industry is the possibility of their working considerably cheaper than men. A man in industry requires a wage sufficient to maintain himself and his family, whereas many women living at home, with little or nothing to do, are willing to go into industry in order to secure spending money, or enough money to guarantee them the little necessities and luxuries of life that a young woman naturally desires. As a rule, these women are single, have no one dependent on them, and in many cases can secure their living at home. Thus they are willing to work for fifty or seventy-five cents or a dollar a day, whereas a man cannot support a family and work in the same industry for less than $2 a day. In consequence women are employed, and men leave the industry. This is particularly true in such an industry as cigar making, which requires dexterity rather than strength. Cigars which were formerly rolled by men for seventy-five or eighty cents a hundred are now rolled in some factories by girls for thirty-five or forty cents. Men are forced out of the industry, because they cannot afford to work at such low wages, whereas girls, ranging in age from sixteen up, are very willing to receive $3 or $4 a week for their efforts.

Had labor not been subdivided and industry standardized,

women would have found it difficult to enter many industries, but with the development of machinery, leaving to the worker only quick, mechanical movements to perform, women are often more desirable than men because of their greater dexterity and quickness.

From the standpoint of industry, these are the prime causes leading women to take up industrial pursuits, but one of the chief things that has led young women staying at home to go into industry has been the fact that nearly all of the industries which were formerly carried on at home are now carried on in factories on a large scale. Spinning and weaving and the manufacture of clothing were the first things to leave the home. Although in some mountainous districts of the South clothing is still spun and made up at home, the great majority of people in the United States to-day wear factory-made cloth and clothing. A hundred years ago factory-made cloth and clothing were the exception and not the rule.

The changing of spinning and weaving from a home industry to a factory industry meant that all persons who were engaged in these industries must move into towns, because only in towns could a factory system be carried on when the transportation was as defective as it was in the early part of the nineteenth century. This moving into towns meant that people would no longer be able to keep chickens and cows, and the women of the household were therefore deprived of another occupation; namely, tending the chickens and cows and taking care of the milk and making butter.

Then the manufacture of underclothing and stockings was undertaken in factories with exactly the same result. People, instead of engaging in these occupations at home, bought factory-made goods because they were cheap. At the same time, in order to buy factory-made articles, they moved to town and secured employment in the factories. Thus the making of clothing in factories instead of at home removed from the women of the household a great group of occupa-

tions which had formerly taken up a large part of their time.

Within the last twenty years, the preparation of food stuffs, another great group of consumption goods, has been relegated to the factory. Until recent years, bread was baked at home. Now one bread company located in a city, for example, Buffalo, sends bread to small towns two hundred miles away. Meat was formerly killed and dressed at home. It is now killed in the Middle West and delivered dressed to all parts of the world. Most households no longer make their own soap, but buy the product ready-made. The same is true of canned fruit and vegetables. Successful factory processes have been devised by which they are prepared in factories and shipped far and wide to the consumer. Cakes, cookies, crackers, and breakfast foods are also prepared in factories and shipped to all parts of the country, "pre-digested," and ready to eat.

Thus of the three occupations, sewing, cooking, and cleaning, which woman formerly performed at home, two, sewing and cooking, are carried on in factories, while the cleaning still remains a problem. Much of this, however, has been shifted to the laundry and automatic carpet-cleaning companies, and within a generation woman will be deprived of practically every occupation which was formerly considered to be in her home sphere. Therefore, when a girl finishes her schooling, there is no possibility for her to engage in any occupation at home, and she naturally follows the occupations which have left the home and gone to the factory.

A minute subdivision of labor and a standardization of industry have made it possible for women to enter industry; the wish to supplement the family income or the necessity for so doing, and the absence of home employments, due to the replacement of home industry by factory industry, have made the woman desirous of entering industry; and these two causes, working side by side with the possibility of woman's working cheaply and the superior ability of women to carry

on standardized industry, have led to the great rush of women into gainful occupations.

The question of women in industry has attracted considerable attention in late years, and bitter discussions have resulted. On the one hand, it is argued that —

1. Woman is the home maker and that she should perform that function and no other, as it is not possible for any one to do two things well at the same time.

2. Children can be brought up properly only when subject to the constant care of the mother, and that this cannot be given if the mother is working a large part of her time in an occupation apart from the home.

3. Factory labor injures women much more than it injures men. Women are so constituted physically that long standing or arduous work is apt to result seriously.

4. The work of women results in cutting down the wages of men.

5. The working of married women has a serious effect on the coming generation of children.

On the other hand, those in favor of women engaging in industry maintain that —

1. There is little left for a woman to do at home, and that as it is bad to be idle, it logically follows that she should go into the factory.

2. A woman working at home is working all the time, whereas if she engages in factory work her hours are definite and limited.

3. Women do not care for children all of the time even when they remain at home, because of the fact that the children are in school during a large part of the day.

4. With our standardized industry, the physiological differences between man and woman need play no part in the controversy, because the continuance of a given operation does not require the constant presence of one operator, but may be carried on one week by one person and the next week by another.

5. The entrance of women into industry makes them independent. Heretofore, women in poorer and larger families were compelled to get married in order to relieve their fathers of the burden of taking care of them. The results of such forced marriages were in many cases unhappiness and misery. Under the new system, women as independent wage earners can actually assist their fathers in taking care of the home, and need marry only when they meet a congenial person.

6. The entrance of women into industry places women and men on an equality, whereas under the old system, where man alone earned a livelihood, women were constantly subject to the disagreeable necessity of asking the men for money. The placing of men and women on an equality means democracy in its highest form, because in a democracy there are no superiors and no inferiors. This development of women will mean a higher standard of children, — children of more character and independence.

7. It is not fair when the work of the world is done so largely by machines to require the women to do the drudgery. It is not necessary to banish her to the tub, the needle, and the hot stove, while the man engages in more interesting and enjoyable pursuits.

8. Women are needed in industry because there they can produce far more than they could at home. In modern standardized industry women are often more skilled and therefore more productive than men, because the heavy work is all done by machinery and only dexterity and skill are required. Women often possess these qualities to a higher degree than men, and besides, women as a whole are steadier and more reliable as workers. All modern inventions and improvements tend to place women on a level with men and give them the same advantages in the industrial world.

The controversy is not yet ended, and each person is at liberty to draw his or her own conclusions. Without ques-

tioning the validity of the arguments on either side, it is undoubtedly true that women are going into industry every year because of the possibilities which modern industry presents to them to become effective earners, and because of the necessity of having some occupation. Unquestionably, women are in industry to stay. The problem of society is so to mold industry that it may not injure the women who engage in it.

TOPICS FOR CLASS DISCUSSION

1. Why have women gone into industry?
2. Upon what is the home founded?
3. What is the effect on home life of having the wives and mothers in mills and factories?
4. Is modern industry a proper field for women's activity?
5. Is the American woman fitted to take a position in modern industry?
6. What is the industrial value of women?
7. Is it possible or desirable to place women on an industrial equality with men?
8. What steps could be taken to keep women out of industrial pursuits?
9. State the economic effects of women's industrial activity.

CHAPTER XX

COST OF INDUSTRIAL PROGRESS

So much, then, for the specific problems which arise in our treatment of the labor force. There are several other problems which relate directly to this question. They will be discussed under the head, "Cost of Industrial Progress."

It should be borne in mind that the industrial conditions which are spoken of in this chapter are not a necessary part of our modern industrial system, but are rather incidental to it and separable from it, if the proper energy and intelligence are directed to that end.

It goes without saying that if we would maintain an intelligent, capable labor force, we must treat the individual laborer well. Every man in the community has a vital concern in the work done by every other man, because if all produce largely, all have the possibility of consuming largely; whereas if any one is not producing, it will naturally follow that the community as a whole will have less to consume. One of the leading causes of low productive efficiency on the part of the community is the industrial accident. While no accurate figures can be secured, it is conservatively estimated that about 525,000 people are killed and injured in the United States every year through industrial accidents. This is a larger number than were killed and injured in the Russo-Japanese War, the Spanish-American War, and the Boer War combined, and it does not take into account the many thousands injured by industry in a less spectacular way. Those, for example, whose lungs are ruined by breathing the fine dust which arises from some kinds of polishing, and those

whose constitutions are broken down by work in lead works or with phosphorus, are injured just as vitally and their productive capacity is decreased just as surely as though the same individuals had been caught in a collision. The difference is that such cases do not reach the daily press. They are too commonplace. But there are 500,000 and more accidents annually that we can see and appreciate because the injury inflicted comes suddenly and in a "newsy" manner.

We may divide industrial accidents into four groups: first, accidents in transportation; second, accidents in mining; third, accidents in manufacturing; and fourth, accidents in building and construction work.

The accidents occurring in transportation are the only ones of which we have a complete record because they are compiled by the Interstate Commerce Commission, which derives its authority from the United States government, and is able to secure complete reports from all parts of the United States. While the number varies from year to year, the killed and injured on our railroads approximates 80,000 annually. That this death roll is needlessly extended is shown by the fact that accidents among our railroad employees are twice as prevalent as among the railroad employees of Germany, and three times as prevalent as among the railroad employees of Austria-Hungary. The deaths among the railroad employees are three times as great as in Germany and five times as great as in Austria-Hungary. In other words, we take less care of the employees on our railroads than they do in European countries.

Railroad accidents are due to (1) defective mechanical devices, such as switches, couplers, and brake shoes. These things are all remediable. Before the perfection of the automatic coupler, brakemen were required to couple cars by hand, with a high resulting mortality. The automatic coupler remedied the defect. Other safety devices can be substituted with equal effect in other branches of the service.

(2) Mistakes of employees. While we cannot perfect

humanity, all at once, those mistakes which are due to overwork or to the failure to secure a high grade of men can be remedied by the railroad companies.

(3) The negligence of the general public. As long as men and women insist on walking in front of trains, they will be killed, despite any action of the railroad company. Much can be done by the elevation of tracks, the removal of grade crossings, and similar changes in construction. In the long run, however, the public must look out for itself wherever possible.

The statistics of mining are compiled in some states by the mine inspector. In the first place, this compilation is incomplete; and in the second place, in many states it is not made at all, whereas in still others there is no mine inspector to make it, and in consequence, we cannot present any general statistics from mining. It is stated that in Pennsylvania one miner is killed for every 55,000 tons of coal mined. This does not, of course, include those miners who stop work at an early age — the victims of miner's asthma and other diseases arising from the work in the mines.

A series of statistics recently compiled by the United States government authorities shows that while in most European countries, with their deep mines, accidents are decreasing proportionately, in the United States, with comparatively shallow mines, accidents are increasing. The problem has been studied in Europe. The same course must be pursued here.

The accidents in manufacturing are even less satisfactorily reported than those in mining, because in no state are all of the manufacturing establishments regularly covered by factory inspection.

Accidents in manufacturing and mining are largely preventable. If there is gas in the mines and the miners use open lamps, sooner or later there will be an explosion. If there are unprotected gear wheels in a factory, sooner or later some one will be caught in them. In both cases,

rigorous government inspection and a requirement that all of the known safety devices be installed would result in an appreciable decrease in the number of those killed and injured in industrial pursuits.

The statistics of building are even less reliable than those for mining or manufacturing, because there no one is responsible for compiling the list of such accidents. Enough has, however, been said to show that men and women and children are being killed and maimed every year. What results can be directly traced to the killing and maiming of a half million people annually!

In the first place, the community is deprived temporarily or permanently of the productive powers of 500,000 men, women, and children. It is impossible to put in dollars the amount of such a loss, but when it is considered that there are in the United States only about 29,000,000 wage earners and that of this 29,000,000, 500,000, or 2 per cent, each year are killed or rendered temporarily or permanently unproductive through maiming, it becomes apparent that the loss to the community is an exceedingly important item. The productive capacity of the community is being diminished by an unnecessary evil, and the whole community is poorer for the loss.

In the second place, while the 60,000 or 70,000 persons who are killed every year through industrial accidents no longer affect the community, the 30,000 or 40,000 who remain either temporarily incapacitated or permanently disabled constitute a real problem which must be met. Slight injuries which result in laying a man off for a week or a month merely render him unproductive during that period. The result of such an injury will be felt only by the family which is forced to curtail its expenditures while the breadwinner is not earning. On the other hand, injuries which render a man permanently unproductive present a serious problem. Not only do such people help to increase the number of beggars and paupers with which

the community is already overrun, but they overtax the hospitals, the poorhouses, and other institutions supported either wholly or in part by public funds. Furthermore, by throwing those dependent on them on their own resources, they overstrain the mothers, and prematurely exploit the children.

In the third place, the man who is incapacitated is not only unable properly to feed and clothe his children, but he is also unable to give them the care which they require, and he therefore runs the great risk of presenting to the community problems in the form of incorrigible and delinquent children who fill up the jails and reformatories.

From this discussion, we may therefore conclude, first, that an unnecessarily large number of persons are annually killed and injured in industry; second, that the burdens resulting from these accidents fall ultimately, not upon the persons injured nor upon their families, but upon the community; and third, that from the standpoint of preserving industrial efficiency and preventing dependence on public support, it is wise for the community to put an end to as many of these industrial accidents as are preventable.

Another problem which presents itself, and which is secondary only to that of the industrial accident, is the problem of sanitation. Tuberculosis resulting from dust-laden factory air is just as serious for the worker as the accident resulting from a railroad collision. The only difference is that the accident is announced in the papers, while the case of tuberculosis is known only in the home and at the hospitals and is never brought to public notice.

The bad sanitation in modern factories may take the form of: first, dust; second, poisonous vapors; third, extreme heat and cold; and fourth, lack of ventilation.

Perhaps the dust in the coal mines and coal breakers is more evident than anywhere else. At the hearing before the Anthracite Strike Commission in 1902, the attorneys for the miners presented a miner's lung, preserved in alcohol,

which was perfectly black from the minute particles of coal dust breathed in during the years of work in the mine. In certain departments of felt hat factories, woolen mills, jute mills, and cotton factories, the air is filled with flying lint almost imperceptible to the eye, but in the course of hours a thin coating of fine dust is left on the machinery and the other objects in the work room. This dust, breathed into the lungs, means trouble to the worker sooner or later. Dust in the coal breaker can be largely prevented by screening the coal wet. Dust in factory rooms can be rendered far less dangerous by the introduction of suction wheels, blowers, and other mechanical appliances.

It is not necessary to comment upon the dangers arising from working with materials such as phosphorus and white lead. It is perfectly well known that lead poisoning and phosphorus poisoning are almost the inevitable result of working in these factories, particularly if the work is continued for a great number of hours per day. But the effects of the poison can be greatly decreased, if not completely overcome, by wearing masks which keep out the fumes and by working for such a small number of hours per day that the poison gets no chance to take effect.

In glass works, foundries, and rolling mills, the workers are subject to extremes of heat and cold, particularly on leaving the mills from a night shift in the winter time. In many factories, principally cotton mills, it is necessary to maintain a high temperature in the damp atmosphere so that the threads will not break, and in such instances the results are sometimes serious for the workers. These dangers can be minimized by decreasing the length of the working shifts, so that the workers will not be overstrained. In short, here is a long series of causes which lead inevitably to diseases, or at least to a reduction in the working power of the individual who is subject to them. Prevention is nearly always possible, and, as in the case of the industrial accident, it is the duty of society to prevent them, not only

from the standpoint of humanitarianism, but from that of self-preservation as well.

TOPICS FOR CLASS DISCUSSION

1. Are industrial accidents inevitable?
2. In a case where persons are killed and injured in a wreck due primarily to a defective air brake, what should be done?
3. To what extent is the community at large responsible for accidents?
4. Where does the ultimate burden of industrial accidents rest?
5. Should a manufacturer be held personally responsible for an accident due to unguarded machinery?
6. What would be the most effective method of preventing accidents?
7. Who secures the benefit from long hours of labor?
8. What is the object of having long hours?
9. What is the economic effect of unduly long hours of work?
10. Should the working hours of men be restricted by law?
11. Why are unsanitary working conditions tolerated?
12. Discuss the elements in the present industrial system that make for inefficiency.
13. Discuss the elements that make for efficiency.
14. What changes can you suggest in the modern industrial system that will increase efficiency?

BOOK V

CHAPTER XXI

THE ORIGIN AND CHARACTER OF CAPITAL

THE discussion has thus far included the two primary essentials to production, land, or natural resources, and labor, or human energy. These factors are spoken of as primary essentials in production because both must be present in every productive operation. It is impossible to conceive of a productive operation without land and labor. The fish in the stream and the coal on the mountain side could not be converted into wealth if there were no people by to catch the one or pick up the other. In the same way, if there were no fish to catch nor coal to pick up, labor would be helpless and unable to produce wealth.

While these two things are the primary essentials in any productive operation, there is a secondary essential, capital. Capital is spoken of as secondary because it is the result of the application of labor to natural resources. If all of the capital in the community were destroyed, it could be replaced by the application of labor to land. The destruction of all of the labor or all of the land in the community would render production impossible. Labor and land are, therefore, described as of primary, and capital as of secondary importance in production. Production is not absolutely dependent upon capital for its continuance, whereas it is dependent on land and labor. As has been shown, however, modern industry requires the presence of all three factors.

Speaking generally, the United States has capital, while China has none. To be sure, this statement is not absolutely true, because no productive operation, even in the

most primitive community, can be carried on without the use of some capital; but the thing that is characteristic of the modern industrial system, which has been so highly developed in America, is the presence of enormous funds of capital. Nowhere are these funds larger or more numerous than in the United States. The United States Steel Corporation, the Standard Oil Company, and the transcontinental railroads are among the best examples of the organization of funds of capital for productive purposes.

In order to bring out the contrast, and to show the advantages secured by creating large funds of capital, consider for a moment two communities, one of which stores up wealth in an unproductive form, while the other stores it up in the form of capital, — that is, in a form that will aid in producing additional wealth. Perhaps no community so well illustrates the storing up of wealth in unproductive forms as ancient Egypt. The kings spent millions in money and consumed millions of days' work to erect pyramids and sphinxes. To be sure, these great engineering feats remain to this day as monuments and relics, but they are as useless to mankind now as they were useless in the days of the Pharaohs. They are not capital because they cannot be used in future production. They merely represent a great accumulation of unusable wealth.

In the erection of the pyramids the Eygptian kings used up the surplus of Egypt. The surplus wealth, which might otherwise have gone to building up a strong commercial or industrial nation, was sacrificed to the royal desire for glory. In America, in distinct contrast with the conditions in Egypt, the surplus is utilized largely in facilitating the production of more wealth; that is, it is utilized as capital. The test which any community must apply is the one suggested above. If wealth is being used in furthering production, it is capital. If no productive use is being made of it, wealth is not capital.

The economists, therefore, say that capital consists of those

products of past industry which are being used in further production. The pyramids of Egypt were the products of industry. However, they were not capital because they were not assisting in further production. On the other hand, the factory, railroad, or machine is capital because it is a product of industry and it does assist in further production.

As has already been stated, productive operations to-day are capitalistic; that is, they are carried on with the aid of capital, and under the modern system it would not be possible to conceive of a productive enterprise which could be carried on without the aid of capital. The naked savage catching fish from the brook with his hands would be producing, that is, creating utilities in the fish, without the aid of capital. If he used a hook or a net, he would at once be engaged in capitalistic production, because the hook and the net are products of past industry which are essentials in assisting him to increase utilities in the fish, — that is, to produce.

Excepting for such a far-fetched illustration as this, it is impossible to give any instance where society could carry on its productive operations, without the aid of some product of past industry, that is, without the aid of capital. In modern communities, capital is absolutely essential in productive operations.

In general, then, those portions of wealth are capital which are the result of past industry and which assist in further production. It is possible to enlarge upon this statement by saying that capital includes the following things: first, improvements on land; second, roads, railroads, telegraph and telephone lines; third, tools, machines, and mechanical appliances; fourth, raw materials, and partially manufactured materials which are to be used in the process of manufacturing. It is, of course, necessary in each case that the wealth be used in furthering production.

It is clear that improvements on land, such as buildings,

streets, and railroads, are capital because they represent the products of past industry; that is, they owe their existence to work which has previously been done by labor upon land, assisted by capital. When wealth so created is used to assist in further production, it is capital. Men regard capital as including also tools, machines, and mechanical appliances, because it is clear that without them none of the operations of modern industry would be in any way possible. In the same way raw material and partially manufactured material are capital because both raw material, such as iron ore, coal, cotton, and wool, and partially finished products, such as bolts, lumber, and steel ingots, represent the results of industry, and they are destined to assist production in their various fields.

In discussing the things that are capital there is a problem on which economists fail to agree, — the problem of the relation of money to capital. Is money capital? Perhaps no question arising under the discussion of capital has caused more difference of opinion than this single question. Those who hold to the view that money is capital, state their position in this way.

Money is clearly the product of past industry. In order to prepare it for circulation, the mint, equipped with expensive capital (tools and machinery) has expended labor in turning the money into its present form. As we receive the money it represents the application of labor to raw materials. Furthermore, under the modern system, money is an absolute necessity in productive operations. The grocer needs money to make change; the manufacturer needs money to pay his employees on Saturday night; the consumer needs money to purchase bread from the baker, milk from the dairy, and the other articles which go to form the daily diet of every normal family. In other words, money performs a very essential part in aiding modern production. If money is the product of past industry and if it performs a part in production, it is therefore capital.

But these arguments do not apply to all money. For example, if a man were to receive one hundred dollars and put it in a stocking behind the chimney, this money would not be capital because it would not be assisting in production. It is, therefore, fair to conclude that, as with other commodities, money may be capital or it may not be capital, and the question as to its status at any given time may be determined only by knowing whether or not the money in question is being used to assist in production.

This represents the old view of capital, according to which things assisting in production, directly or indirectly, were included under capital. According to the newer view, in order to be capital, a good must aid directly in production.

According to this view, the ax used by a woodsman to cut down a tree is capital because it is the product of past industry and is being used directly to assist in future production. On the other hand, the breakfast, eaten by the woodsman, while it is entirely necessary to the productive operation, assists it only indirectly and is, therefore, not capital.

It is probably fair to say that economists are accepting the latter view more and more, and that, therefore, according to the best economy, in order to be capital, a good must assist directly in production.

At this point it might be well to distinguish "capital" from "capital goods." As ordinarily used, "capital" is a more or less intangible and unchangeable thing. A business may be capitalized at $50,000 for twenty years. During that time every tool and machine used in the work may have been replaced by new ones, — in some cases three or four times over. The "capital" has remained the same, but the "capital goods," the various elements making up the capital, have been worn out and replaced.

In that lies the distinction between capital and capital goods. Capital is the intangible, continuous thing which represents the total value of the wealth-producing products

of past industry employed in the production of new wealth. The capital goods, on the other hand, represent the individual machines, tools, engines, and other tools of production which wear out in the course of time and are replaced. Capital is a constant factor. Capital goods are constantly changing.

Perhaps the distinction can be brought out by an illustration. A butcher, a baker, and a candlestick maker each have a capital of $10,000. To that extent, each is the same. But the capital goods of the butcher are tools for slaughtering animals; those of the baker are tools and appliances for baking bread; while those of the candlestick maker are tools for the working of brass and other metals. The capital of each is the same, but in each case the capital goods are different.

Every year a large part of the capital goods of the community is destroyed. In the process of production coal is dug out of the ground only to be burned in a factory and thus destroyed. Steel billets are hammered into engine frames, and otherwise destroyed. In the same way other products of industry are destroyed in the creation of new products. Capital goods are being destroyed and constantly replaced by the operations of labor upon land, assisted by the capital as it is utilized in industry.

Modern society has come to depend primarily upon capital for its existence. No one wishes to go back to the state of the naked savage catching fish from the brook with his hand, or picking berries from the bushes or digging roots from the ground. The community has become accustomed to the use of capital. Without it life would be intolerable. What, then, is the origin of this capital, and how may it be replaced as it is destroyed?

There was a time in the history of modern society when there was little wealth, barely enough to go around and keep people existing, and in those times capital could be accumulated only by saving; that is, instead of consuming all that he received, a man abstained from consumption and con-

sumed but a small amount of what he would otherwise have consumed. When he had saved sufficient wealth through this abstinence, he used it to secure some new tool or method, such as a windmill or a sailboat, that would increase his productive efficiency.

As a result of this necessity for saving, the idea was spread through the whole race, by means of the schools, the churches, and all of the other means of instruction, that it was necessary to save. The result of this education was the development of a strong desire to save. This attitude is perhaps best illustrated by the immigrant who comes to the United States, and lives on a low standard, to the great disgust of the people in America; but this low-standard immigrant is merely carrying out teachings which have made modern industry possible. He is saving from his earnings and accumulating a great mass of wealth that can be used as capital.

When the immigrant gets his wages on Saturday night, there are certain things which he deducts, — first, the amount which is to go to the savings bank; secondly, the amount which he pays for the rent; and thirdly, the amount for food and clothes.

When saving was necessary in order to create capital in the community, the hard-fisted man was in demand. He was valuable because he brought together a large amount of wealth which was used in further production. Modern society is on an entirely different basis. Through long periods of saving the capital in the community has been so greatly increased that there is no longer any need for individual saving. Not only can the modern industrial system produce enough for people to consume in the form of food, clothing, shelter, and recreation, up to a normal standard of living, but it can produce, in addition, enough to replace the capital which is constantly destroyed and to create large masses of new capital. Hence, the hard-fisted man is not in demand but rather the man who will consume and enjoy. It is no longer necessary that a man abstain in order to save.

The community as a coöperative group is producing more than enough for all.

The modern community learns to add to its capital, not by stinting, but by maintaining a standard of consumption that will bring to its highest point human efficiency. A man creates capital, not by learning how to save, but by learning how to use the tools of production efficiently. The emphasis needs, therefore, to be laid, not on saving, but on efficiency. High efficiency will mean a great social surplus. It is the worker, and not the saver, who creates this surplus.

This sum of economic goods above that necessary to maintain a standard of living, which we call the social surplus, can be converted into capital to carry on production without pinching individuals or placing upon them the necessity of saving. Looked at from the individual standpoint, saving is still necessary to provide for a "rainy day," but from the community standpoint, the man who saves is depriving himself of some of the necessities which contribute to make him an efficient producer. Yet, the habit of saving has become a racial characteristic, and people are saving as never before, through insurance companies, trust companies, building and loan associations, real estate investments, and investments in stocks and bonds.

The community living on a basis of surplus needs no longer depend on individual abstinence as the source of its capital. Efficiency and not parsimony is the characteristic for which the community should strive.

TOPICS FOR CLASS DISCUSSION

1. Why do Americans look contemptuously upon immigrants who maintain a low standard of living in order to save?
2. What prompts the average man to save?
3. Is it better for a man to maintain a high standard of living or to save by lowering his standard?
4. Is the spender or the saver more advantageous to the community?
5. Is it wise to increase the amount of capital in the United States?
6. What is the result of increasing capital faster than population?

7. Is the lead pencil with which you take notes capital?
8. Is a child's slate capital?
9. Why do we put our money into railroads rather than pyramids?
10. Is money capital?
11. Distinguish accurately between natural resources and capital.
12. Distinguish between wealth and capital.

CHAPTER XXII

THE PROBLEMS OF CAPITAL

CAPITAL is accumulated by reserving a certain portion of the wealth which is produced in the community for the purpose of creating additional wealth.

There are several forms which these accumulations can take, and in order to facilitate the discussion, capital is described as "circulating" or "fixed," "specialized" or "free." In general, the demand for capital in any field determines what kind of capital will be developed there. At one time the demand may be greater for specialized capital, at another time it may be greater for free capital.

Circulating capital is capital which is destroyed by a single use, such as coal, food, raw materials, and the like. As contrasted with this, there is fixed capital which can be used for a considerable length of time without being destroyed. An example of fixed capital is found in locomotives, factories, and dump carts.

Then the problem may be looked at from another standpoint. Capital which has been molded into a form that can be used only for a very specialized purpose is called specialized capital. Specialization may be very great or only moderately so, but when capital has been put in a form that can be used for a comparatively few things, it is specialized. For example, a press which will stamp out twenty-dollar gold pieces is a very extreme form of specialization because there are only a half dozen places in the world where twenty-dollar gold pieces are stamped. A crane built to carry fifty tons is a less specialized form of capital. While

there are, relatively speaking, few places where such an appliance is used, it can be employed in a greater number of places than the coin press. The crane may be of service in any one of several industries, while the coin press can be used in but one.

In contrast with capital which is thus specialized, capital is said to be free when it exists in a form that may be used in a large number of industries. A piece of pig iron is free capital. It can be converted into carriage springs, bicycle pedals, drills, car wheels, or any other form of capital into which iron enters. The ordinary machinist's lathe is somewhat specialized, but it would be considered almost free in contrast with a lathe made to turn a 10,000-pound shaft. It is, of course, impossible in many cases to say whether the goods are free or specialized because the two classes merge into one another, but the distinction can always be made that when the capital is usable in only a few ways, it is specialized. When, on the other hand, it is usable in many ways, it is free.

One of the great problems in the development of capital is to determine how much capital should be utilized in the form of fixed and how much in the form of circulating capital. Wealth in the form of fixed capital cannot of course be converted into circulating capital, and the progress of the community may be seriously hampered by the lack of a sufficient amount of circulating capital. In the early part of the nineteenth century an enormous amount of wealth was converted into canals, a form of fixed, specialized capital. Far more canals were built than the traffic warranted, and the wealth sunk in many of the canal projects was completely lost. One of the causes of the panic of 1873 was the conversion of a large amount of the wealth of the community into fixed capital in the form of railroads. As it turned out, too great a proportion of the country's wealth was put into this form of fixed capital, and a business tie-up resulted.

In the same way, if a large portion of the capital is turned

into specialized goods, it is clear that industry will suffer because of a lack of capital which can be diverted into the kinds of production that will meet the changing demands of a modern society. The mobility of capital in the United States, that is, its ability to change from one use to another, is shown by the growth of the automobile industry. In 1900 the industry was insignificant. In 1908 it was employing a capital of $250,000,000 and 80,000 employees. So long as capital is sufficiently mobile to flow readily from one industry to another, — or so long as there is sufficient wealth to form capital for new industries, — the industrial conditions are, from the standpoint of this factor in production, excellent.

Another of the interesting problems presented by the growth of capital in modern society is that of utilizing, for the benefit of all, the savings of individuals. How are such savings converted into circulating or fixed capital?

A child receives a five-dollar gold piece from its grandmother and takes it home in great glee. Acting on the advice of its parents, the child puts the gold piece into the savings bank with the implicit belief that the same five-dollar gold piece will be returned by the bank whenever the demand is made upon it. But the bank is not doing business in that way.

The bank acts as a loan agent. If a man wishes to start a shoe factory, the bank furnishes him with sufficient credit to secure his capital. In return for this credit, the borrower must furnish good securities. This would-be manufacturer brings to the bank $100,000 worth of bonds, and deposits them together with his note for $50,000. The bank accepts the note because it is backed by this collateral of bonds and gives him credit on its books for $50,000. If he so desires, the bank gives him $50,000 in cash; but, as a rule, it is only credit that is demanded.

The prospective manufacturer then rents his factory building, installs his machinery, and hires his operatives. The

rent and tools are paid for by drawing checks on his $50,000 of credit, that is, transferring his right to part of this credit to those who sell him his tools and materials. The five dollars deposited by the child in the bank, together with money deposited by hundreds of others, was among the $250 which went to the shoe manufacturer and which he used at the end of the first week to pay off his men.

But the bank does not loan the manufacturer his $50,000 for nothing. It requires of him a promise to pay 6 per cent interest during the time that he retains the money on credit. In order to pay this 6 per cent interest, the shoe manufacturer at once begins to work. He buys raw material, makes shoes, and sells them. Thus he engages in a productive operation by creating utilities in economic goods. He adds to their value, — to the amount which people are willing to give in exchange for them. In the course of a year the shoe manufacturer will make perhaps 10 per cent on the $50,000 loaned by the bank, and of this 10 per cent 6 per cent is returned by him to the bank in payment for the $50,000 loan.

When the child deposited the five-dollar gold piece, the bank agreed to pay 3 per cent interest or 15 cents a year for the use of this five dollars. The shoe manufacturer pays the bank 6 per cent or 30 cents a year for the use of the five dollars, and the bank pockets the difference, or 15 cents. Thus the bank is making 3 per cent on the transaction.

Saving was formerly done in this way. The bank acted as the loan agent for any one who wished to secure money and who could furnish reliable securities as collateral. Its loanable funds were secured from a large number of people in the community, each one of whom wished to invest a small amount of money, but no one of whom was sufficiently well off to be able to loan a large sum such as a manufacturer would require to begin business.

There were, to be sure, cases of individuals who had saved considerable sums; and when Farmer Williams wished to build a barn, he went to Farmer Jones and borrowed $500

on a mortgage. But this was an uncertain way of carrying on enterprises. Every community did not have a Farmer Jones. Besides, as industry grew, neither $500 nor $5000 was enough to start a business. No one person wished to loan the large sums necessary to begin a modern business enterprise, even though he had them.

To meet the contingency, in the last few years a new plan has been developed and perfected by which the bank is eliminated from the transaction. The shoe manufacturer decides to begin business, but instead of going to the bank with his collateral and borrowing $50,000, he incorporates his business; that is, he secures a charter, a board of directors is appointed, and stocks and bonds are issued. These stocks and bonds are then sold to the people in the community who wish to invest their money and who do not wish to engage in business themselves. Thus, without the intervention of the bank, and with the bank's profit eliminated, the business man secures his capital direct from the person who has saved it, and who desires to invest it. At the same time no one is called on to invest a large amount. A company may be capitalized for $10,000,000, but an individual needs to invest only $50 or $100 by buying a share of stock, or a bond.

Trust companies, insurance companies, and in a limited sense building loan associations exercise the functions of the bank and act as loan agents for investors and borrowers; but in recent years the corporation, by selling stocks and bonds and paying good rates of interest, has done away with all of the intermediary banking establishments and gone directly to the individual saver.

It is interesting to note that the corporation stocks and bonds have been used as a means of overcapitalizing, or stock watering and investors have thus been deceived as to the real value of the business in which they were investing. This subject will be dealt with at length in the chapter on The Corporation and the Public.

Another question which arises in the discussion of capital

is the meaning which a business man attaches to the phrase which he often uses, "I have a capital of $50,000." Does he mean that he has $50,000 in silver or greenbacks? As has already been pointed out, money of itself is non-productive unless it is being used to help create utilities in goods. A manufacturer might pile up millions of silver dollars on the floor of his factory and yet no production would take place.

When a man says he has a business with a capital of $50,000, he does not mean that he possesses $50,000, but that his stock of raw materials, finished goods, machines, and tools, together with the "good will" of the business, would exchange in the market for $50,000. He has not $50,000 in coin, and it may be that, were he sold out by the sheriff, his business would not bring $50,000. What he does mean is that if the business in good working order were to be capitalized to form a corporation, it could be fairly valued at $50,000.

As modern production is so intimately connected with the proper maintenance and administration of the capital of the community, it is of vital importance that the capital should be efficiently handled and utilized to the greatest advantage of all concerned.

Capital is developed as the result of increased efficiency. It is brought together in a corporate form by a great aggregation of small investments. Production is intimately connected with the capital, which must be mobile and responsive to new demands. Too much emphasis cannot be laid on the necessity of managing capital in the interest of the community and not of individuals.

TOPICS FOR CLASS DISCUSSION

1. Why is capital accumulated?
2. Is circulating or fixed capital greater in amount?
3. Is specialized or free capital more abundant in the community?
4. What is the effect of converting a large amount of wealth into specialized capital?

5. How long does any piece of capital goods last?

6. What effect has the change in demand from bicycles to automobiles had upon capital?

7. What will be the effect upon capital of borrowing large amounts contributed directly through the purchase of stocks and bonds?

8. What effect has the purchase of stocks and bonds by numerous individuals on the public?

CHAPTER XXIII

THE ORGANIZER, THE MANAGER, AND THE BOSS

One of America's distinctive contributions to the industrial world is the organizer. To be sure, Europe has her organizers, and Germany and England and France, chiefly, but in the number and capacity of its organizers, and in their industrial achievements, America far surpasses any other country of the world.

The organizer is the commander-in-chief of his particular industry. It is not his duty to do any of the detail work, either with his hands or his brain. His occupation consists in seeing that the great outlines of the industry as he has planned them are placed for execution in the hands of competent men. The organizer mobilizes the forces of labor and capital and applies them to the natural resources in a way which will produce the largest return for the smallest outlay. It is the duty of the organizer to superintend only the big things and leave the detail for others. One of the leading men in American industry is credited with saying that he never did anything that he could hire some one else to do; in other words, only the big jobs were big enough for his organizing ability. The smaller ones could be taken care of by his subordinates.

It is the duty of the organizer to see that he has efficient forces to execute his ideas. This is one of the characteristics of a successful organizer, — it is likewise a characteristic of any other leader of men. He must be a sufficient reader of character to select subordinates who will see things as he does, and after selecting them, he must have sufficient person-

ality to impress his will upon his subordinates. In short, the organizer must, first of all, be a leader of men. He must have the ability to work with and direct others, and get them to do the things as he wishes them done.

The successful organizer must be more or less intimately acquainted with the detail of the various industrial processes which fall under his control, and he must be on the lookout constantly for new processes which will give him an advantage in method over his competitors. One of the leading manufacturers of electrical machinery is particularly noted for his ability to judge of the character and possible outcome of an invention in his line. Not only does he constantly invent himself, but he is careful to keep in touch with all the new inventions pertaining to electricity, and to know which of these he needs and which he can afford to let some one else get.

Another thing which the organizer must know intimately is the condition of the markets. Before he places an article before the people and asks them to accept it, he must have some conception of what the public wants. In the first place, he must know what kinds of goods are in demand; and in the second place he must know where this demand is most active, — that is, where prices are highest.

In addition to producing cheaply the article which he is manufacturing, by an efficient organization of his labor and capital, the organizer must be acquainted with the best means of shipping and disposing of his manufactured products.

As already stated, the organizer is peculiarly American, and to the presence in America of a large group of efficient organizers we owe many things, the most important of which, perhaps, are the examples of large-scale production which have been furnished in the steel, oil, and beef industries, and the use of by-products in industry, which is an essential feature of large-scale production.

This development of large-scale production and the utilization of by-products are so extensive in the large industries

of the country and have so cheapened the cost of producing commodities that, were it not for the presence of monopoly and special privilege, the community would be enabled to get many articles of consumption at a price which would represent but a fraction of the cost of the same commodity twenty years ago.

The organizer is important in any community of which he may be a part. The community revolves about him and he not uncommonly occupies the position of a feudal baron of the Middle Ages. Indeed, in many parts of the country to-day, the organizer, or the company of which the organizer is the head, will own the factories, the mines, the houses in which the workers live, the stores in which the workers buy their provisions; in short, all of the economic fortunes of the population are controlled by one man or by his company. This unique position of the organizer has led in the past to many abuses which the laws have been seeking for some time to correct. Among these abuses were the company store and the payment of wages in scrip, which was good to exchange for goods only at the company's stores. In this way the money which was paid out in wages to the employees was at once taken back at a profit in the company's stores. Both of these proceedings are now generally illegal.

The organizer has been a distinctive factor in the development of our present industrial progress, and as such he is of vital importance to the community. Is it possible for us to insure a continuance of the supply of organizers, and if there is such a possibility, what efforts are we making to incur the continuance of a supply? It is probably fair to say that we have made no intelligent effort along these lines. Our public school system as a whole is calculated to develop schoolteachers and clerks rather than captains of industry, and only in the last few years have the colleges made any appreciable effort to furnish a course of training that will put a man in a position to assist in the industrial world. In fact, we are still in practically the same position that we occupied fifty

years ago, when the organizer rose from the position of office boy, or some similar position, gradually learned the business as he went along, and succeeded in becoming an organizer of industry.

Organizers "happen" now as they did then. Granted the importance of the organizer in industry, it would seem that our institutions should be so shaped as to place before the children of each generation an equal opportunity for the kind of an education that will lead to the development of organizing ability in those who possess the aptitude or desire to develop it.

The manager occupies a position in industry analogous to that occupied by the colonel in the army. It is the duty of the organizer to map out plans for carrying on the general business policy of the concern with which he is connected. The manager is the person who executes the plans made by the organizer. It is therefore necessary that the manager be in close touch with the details of the business. The organizer may have under his control a dozen cotton mills stretching from Massachusetts to Georgia. He has his office in New York and from it he directs the policy of the whole group of mills, sometimes visiting them, but generally leaving the details of the work at each mill to the discretion of his manager, who has full charge in each locality and is responsible to the organizer only.

To be sure, there are many business operations in the United States in which the same man acts as organizer and manager; but the tendency in modern industry is toward a centrally located office having control over a large number of plants scattered through the country. At the central office is an organizer having charge of the general policy of the corporation. At each of the plants is a manager whose work centers around that one plant. The manager, like the organizer, is of comparatively recent origin. Fifty years ago, in most industries, the head of the industry came in close daily contact with the wage workers. He called them by their first

names and worked with them; but the growth of large-scale production and the concentration of industry in a comparatively few hands have made it impossible for the organizer or business head to know anything of the details of his operations or of his workers. He deals in large projects, leaving to the manager the problems that arise from the detail workings of the plants and the contact with the wage workers.

The manager is the man who sees that the productive machine is kept running. He understands the machinery in his particular branch of industry and he understands the labor market, and he brings the wage worker into contact with the machinery, his object being to secure the greatest possible production from the combination of the wage worker and machinery.

The position of the manager is one not so hard to fill as that of the organizer. He is not required to initiate new projects nor outline large operations, but rather to work out and develop the outline of the particular branch of the industry to which he has been assigned. It is not necessary that he should have had so broad a business training or that he should acquire so extensive a knowledge of men and things as the organizer. What he does need is a highly developed technical knowledge of his line of business, backed by a general knowledge of trade conditions and the mechanism of production.

In America we have developed a high type of manager. Beginning with the public school system, as it has grown up in some of the newer parts of the country, and ending with the technical courses in our colleges, an opportunity is presented for the development of those traits which lead to the growth of a group of successful managers. Until recently, in addition to those opportunities for education, our industries have presented a great opportunity for wage workers to rise from the ranks and become managers, and even organizers under exceptional conditions.

The recent changes in modern industry are unfavorable

to the development of additional organizers, but favorable to the development of additional managers. Not only must the organizer of to-day have ability to group various branches of production, to select his subordinates, and to market his products to the greatest advantage, but he must stand out against large corporations in some lines and monopolies in others, and every year the large corporations become larger and the monopolies more absolute. This means that every year great organizers are forced "into the trust." That is, they go out of business as independent organizers and accept positions as managers under the trust. This trust is controlled by an organizer at its head, who is called a president; a number of vice presidents, who, in many cases, perform the functions of organizers; and a group of business managers, each one of whom has charge of a particular operation or factory or mill.

Passing now to a discussion of the boss, we come upon one of the most interesting features of the development of labor organization in America. The "bosses," or "foremen," as they are called in the factories, stand in the position of the captains, lieutenants, and corporals of a military organization, and in their origin they are typically American.

The boss occupies the same position in our modern system that the overseer did in the slave system. It is his duty to see that none of the men loaf, and that they do their work efficiently. The manager provides the outlines of the work to be done, and the boss sees that the men apply themselves to the work and fill in the outline. He is responsible for getting the largest amount of labor possible from the group of wage workers under his charge.

The immigrant comes over from Europe, ignorant of the language, of the kind of work done, and of the methods used. He is placed under a boss, who tells him what to work at and shows him how to work. Then the boss must see that the work is of the necessary standard of quality and of the required amount.

The boss does not use the whip to keep his laborers at work, but he does employ various means which are even more effective. He puts his men on a system of "piece work"; that is, they are paid so much per piece of work that they do, instead of so much per hour. For example, a man may solder the bottom to the frame of a lantern at three cents per lantern or thirty cents per hour. If he works by the hour, there is no incentive to work hard, but if by the piece, he will do his best to solder at least ten lanterns an hour, and perhaps eleven or twelve, for each additional one means an addition to the pay envelope. Then it is tacitly understood that a man must solder ten lanterns an hour or leave. So the piece-work system sets a rapid standard and places every incentive before the wage worker to exceed that standard.

The pace maker is another means of increasing the product of a gang of workers. The boss selects a strong man and pays him a little more than the wages paid the other men, on condition that this man shall set a rapid pace. He carries so many hods per hour, or wheels so many wheelbarrows per hour, and all of the other workers in the gang are required to keep pace with him or lose their positions. This system, while resulting in a larger production, bears very hard on the weaker members of the "gang."

In addition to these two methods, the boss uses talk, sometimes persuasive, sometimes abusive, but always directed toward the one object of getting a larger product per man employed.

The manager and the organizer require an extensive experience and great executive ability. The boss requires only the ability to get along with his men and persuade them or compel them to work hard. The Irish made the first bosses, and they are still the typical ones, although Italians and Slavs are now taking positions as bosses over their own countrymen.

So much for the three types of leaders in American in-

dustry. The next chapter will be devoted to a discussion of the men who make up the rank and file.

TOPICS FOR CLASS DISCUSSION

1. Is the organizer necessary to modern industry?
2. What service does the organizer render?
3. Is the supply of organizing ability limited? If so, by what?
4. Is the average school in America calculated to develop organizing ability?
5. What would happen if all of the present organizers were suddenly removed from industrial life?
6. Distinguish between the organizer and the manager.
7. Which is of greater importance to industry?
8. How can a supply of competent managers be maintained?
9. Is the boss a product of education?
10. What is the significance of the boss in industry?
11. Contrast the duties of the manager and the boss.
12. Of which have we the greater supply?

CHAPTER XXIV

THE WAGE WORKER

THE wage worker is the private in industry. Attention has been called to the organizer, the manager, and the boss. At any one time there are a handful of these men who occupy conspicuous positions and play great parts in our industrial drama, — men who are exceedingly important to the whole community; but where there is one organizer, there are a thousand wage workers, and after all it is upon them that the country must depend for its continued efficiency in production.

No matter how clever the organizer may be, he cannot attend to the detail workings of the plans which he formulates. These he must leave to his subordinates, and upon their skill will depend the working out of the details. But while the subordinates can outline the details, they cannot execute them, so they in turn must look to the labor forces which they employ for the completion of the plans formulated by the organizer. The whole organization of the modern labor force might be compared to a pyramid. At the top are a very few organizers, under them are a somewhat larger number of managers, who in turn rest on a greater group of bosses, and all of these three groups rest finally on the great base of the pyramid composed of the wage workers. If, therefore, the force of wage workers is inefficient and unintelligent, the presence of organizers, managers, and bosses would have no effect whatever in turning out the products of modern industry, — the whole pyramid would collapse for want of a solid base.

There are, broadly speaking, two groups of wage workers, the skilled wage workers and the unskilled or common wage workers. This distinction is very generally made; but, nevertheless, it is almost impossible to say where the skilled wage worker merges into the common wage worker. In fact, we have come to speak of wage workers as skilled, semiskilled, and unskilled, thus making a third class in which all the workers who are neither skilled nor common can be grouped.

In general, however, we think of a skilled worker as one who is doing work which requires a longer or shorter period of apprenticeship; or to put it in another way, a skilled wage worker is one who is doing work which cannot be done by any bystander who may be brought in. In this group are included such things as structural iron work, typesetting, carpentry, bookkeeping, puddling or rolling in steel mills, blacksmithing, and a host of other trades which are rather difficult to learn.

The semiskilled worker is one doing work that can be learned with comparative ease by any newcomer who has ordinary intelligence and ability. Although it is hard to give an accurate definition of the semskilled wage worker, the number of men who fall into this class is very large. Practically all coal mining might be placed in the semi-skilled class, also the work of the conductor on the trolley car, the brakeman on the train, the mechanic's helper, and numerous other groups of men and women who are doing work which requires some little skill and intelligence but no particular period of apprenticeship.

Unskilled work all are familiar with. It is the combination of a maximum of brute force with a minimum of intelligence. The laborer on the street, the coal heaver, and the ditch digger fall in this class.

Up to this point, we have considered the groups of workers, the organizer, the manager, and the boss who were responsible for bringing land and labor together, for keeping labor

efficiently organized and at work, and for providing it with the best methods of turning the natural resources on which it was engaged into the finished product desired. When we deal with the wage workers, skilled, semiskilled, and unskilled, we are dealing with the people who come into actual contact with the material which is being worked upon. Reverting again to the pyramid, we have at the bottom unskilled and semiskilled labor, taking the raw materials from the earth; above them the skilled labor, working the raw materials into the finished products; above them again, the boss, the manager, and the organizer, directing the whole operation. As you ascend the scale, the number of workers becomes fewer, and the skill and intelligence required become greater.

As we stated in the opening chapter, the object of economic thought is the production of efficiency. American wage workers are proverbially efficient, and this efficiency is based upon their independence, intelligence, adaptability to new work, energy and perseverance. Upon the presence of all, or at least a large number, of these qualities in the working population, depends industrial success. Whether or not the high efficiency of the American workman is due to the democratic form of government under which he lives, and the consequent responsibility that is thrown upon him for taking his part in public affairs; or to the original quality of the colonists and subsequent immigrants who came to the country because of economic or religious troubles at home; or because of the high standard of living which prevails in America, — it would be hard to determine. There appears to be little doubt, however, that the American workman is highly efficient, and that the products of American industries can compete successfully in any of the markets of the world.

Too much emphasis cannot be laid on the importance of adaptability in an industrial community. The early colonists found land for the clearing, shipbuilding timber,

fishing banks, and mineral resources. They began at once to develop the resources at hand. In New England they built ships, in Virginia they raised tobacco. By using the resources at hand, thus adapting themselves to the new environment, they made success out of the most adverse conditions.

That old power to adapt themselves to new conditions still predominates in America's labor force. If it were not for its presence, the adoption of new processes and labor-saving machines would be impossible. The man who works well in one particular kind of a loom is not nearly so valuable as the man who knows enough about looms to be able to handle any loom efficiently, with a few days' experience. The first man we call immobile; the second, adaptable.

Another equally important element in the American labor force is its high degree of intelligence. A man who has learned to read and write and think logically makes a far more efficient producer than an ignorant man, particularly if the latter believes he is being misused. Given adaptability and intelligence in the labor force of the community, its industrial development will be limited only by its natural resources.

The immigrant is, as a rule, an unskilled worker. The great influx of immigrants has therefore meant a great increase in the unskilled without a corresponding increase in the group of skilled workers. One of the great demands of the time is for more skilled men in all of the lines of industry.

Almost every book that appears dealing with industrial questions from the standpoint of the wage worker emphasizes the fact that the men and women who are prepared to do unskilled or a low grade of semiskilled work have great difficulty in securing employment, because of the large number of men and women, particularly women, who are not fitted by a training to work along some special line. On the other hand, skilled workers have very little difficulty

in securing employment in almost any line of industry which is permanent. In fact, a perusal of the "Want Ad" column in any newspaper will very quickly show that it is the skilled and not the unskilled worker who is in demand.

This condition of affairs is due not only to the immigrant. Efficient systems of apprenticeship have become obsolete in almost every branch of industry. This is due largely to the subdivision of employments, which makes it impossible for any worker to learn a complete operation. One man formerly made a pair of shoes complete. To-day in a shoe factory a pair of shoes passes through three hundred hands, no one of whom is a shoemaker.

On the other hand, the public schools fail to give any training along the lines that would help the children of the wage worker to take up the same work in life that their parents have been carrying on. This failure on the part of the schools to provide a kind of training that will appeal to the working population is particularly shown in the smaller industrial centers all through the country. Not only do the parents believe that the children get no benefit from the schools, but the principals and superintendents are very frank in saying that the average boy of twelve in an industrial town might as well leave school because he derives, as a rule, no benefit from staying there.

In some cities, particularly in the Middle West, trade schools and manual training schools have assumed quite a prominent position. There is some tendency to introduce manual training, from the kindergarten to the high school. Wherever these systems have been tried, they have met with marvelous success; and other sections of the country are only prevented from copying these systems by the lack of funds, and the conservatism and the opposition of the body of the population to a change in the old system which has been used for a generation.

This question of developing and maintaining a group of skilled wage workers has been further dealt with in the dis-

cussion of the effect of the school on the labor force. At this point it is sufficient to point out the importance of the skilled worker, the fact that skill is not developed as it once was by the apprenticeship system, and that we must therefore fall back for this training on some improvement in our present school system.

While the problem of the unskilled wage worker is in a way unconnected with the problem of the skilled wage worker, in no way is it entirely separable from it. One hundred years ago, a product, the shoe for example, was made by one man who did all the work. He was a skilled man and the work was skilled throughout. The modern shoe factory has revolutionized this. Where one man was originally responsible for making the shoe, at the present time three hundred men take part in its manufacture, and the process is so subdivided by the introduction of machinery that only a small part of the work is done by highly paid skilled labor. The rest of the process is carried out by unskilled men with the aid of machinery. Thus, while under the old system both the simple and the complex operations in the manufacture of a shoe were performed by a highly paid skilled man, under the modern system, with its division of labor, the skilled man performs only the skilled operation, and the unskilled operations are performed by machinery operated by low-paid semiskilled labor.

This change in industry has resulted in dividing off the skilled from the unskilled and the semiskilled wage workers. The change has been facilitated by the entrance into the country of a large number of immigrants, unable to speak the language, and hence unfitted for anything except unskilled work. The consequence is that the immigrants, in some cases skilled men in their own country, come to America and work, using only their physical strength.

The problem of the unskilled wage worker is becoming an acute one. This country has been remarkably fortunate in securing its unskilled labor force at the time when it was

most needed. For example, when the railway building was started, in the middle of the nineteenth century, the Irish famine and the persecutions in Germany sent to this country vast numbers of very desirable and very intelligent immigrants who did the railway building. When it was desired to extend the railway system across the continent, the Chinese were brought over in great numbers, and it is said that, had it not been for their help, it would have been almost impossible to complete the transcontinental lines at that time. The industrial movement, which began in the '80's and has continued ever since, has been supplied with common labor by an unprecedented flow of immigrants from Austria-Hungary and south central Europe.

Of itself, America has no supply of unskilled wage workers. American-born children, with their school education and higher standards, do not as a rule enter the ranks of the unskilled, but take up semiskilled or skilled work. This is particularly true in the large cities where the business schools are turning thousands of boys and girls into stenographers and bookkeepers. Even the immigrant who arrives here very shortly graduates from the common labor force. Twenty years ago, the people sang, "Paddy on the railroad," because then railroad hands were Irishmen. To-day the Irishman no longer lays the track. He has become a conductor or engineer, or he has gone into the city and taken up politics for his occupation, and the Italians and Slavs now do the track-laying, often with an Irish boss. The children of these Slavs and Italians, becoming familiar with American customs, and particularly with the American language, will take up occupations which pay better than work on the railroad, and some other men must then be called upon to supply the deficiency. Thus the unskilled labor force must be constantly recruited from outside of the country.

This process of immigration and its economic bearing has been discussed in another chapter. Here it is necessary

merely to point out the fact that for our supply of unskilled wage workers we have depended on outside countries for the past century.

There is one other factor to be considered, namely, the relation between the unskilled worker and the machine. We have harnessed electricity and steam, but human energy will be used to dig ditches just so long as it costs less than the steam and electricity.

This is clearly shown by the results of labor troubles. Labor will be minutely subdivided until one semiskilled man is performing some mechanical operation and receiving a low wage for the work. Then there is a strike, men are scarce, and the semiskilled man's mechanical work is performed by a machine, invented for the purpose. When labor conditions become normal, the manager discovers that the machine does the work cheaper or better, or both, than the man formerly did, and it replaces the man for good.

The demand for unskilled men will be constant and large so long as it is cheaper to pay them wages than it is to make a machine to do their work. When the supply of unskilled labor nears exhaustion, and the wages paid to unskilled men therefore rise above the cost of machinery, the unskilled worker in many industries will become obsolete.

TOPICS FOR CLASS DISCUSSION

1. What is the most significant fact regarding the wage worker in modern life?
2. What is the relation between our school system and the wage worker?
3. What does the average worker secure for the part which he plays in production?
4. What is the relation between the wage worker and the organizer? The manager? The boss?
5. What part of the burden of production falls on the wage worker?

6. What portion of the benefits of production does the wage worker receive?

7. To what extent is the wage worker dependent on modern industry for his livelihood?

8. What has the panic of 1907–1908 shown regarding the position of the average wage worker?

CHAPTER XXV

THE DEVELOPMENT OF LABOR COÖPERATION

Among primitive savages, each man works for himself, and every man's hand, generally speaking, is against his neighbor. In other words, the savage competes with all the other savages for his living.

Modern society is founded, not on a basis of competition, but of coöperation. Each person helps directly or indirectly every other person in the community and in return is directly or indirectly helped by them. What remains is the form of competition and some of its dogma, but in reality, competition has given place to coöperation.

As has already been pointed out, modern labor is very minutely subdivided; that is, each person who works has a small task, which with the small tasks allotted to several thousand other persons combines to form a great enterprise. The portion of the work which falls to any one individual is so small that it is not possible for him or her to say that his or her existence could continue without the coöperation of the rest.

In primitive society men work together to raise a stone or to kill a bear. Each man helps the other by performing a like part of the same operation. There is as yet no task assigned to definite individuals. This stage is described as simple coöperation.

Simple coöperation is at best unsatisfactory. Some men like to do one thing better than another, hence the development of the second stage in labor coöperation as a division of employments. In this stage, one man kills the game, another builds boats, while the women carry on agriculture

or weave cloth. Then the products of the various members of the community are exchanged. In this stage of society each individual produces a finished product and is, to a certain extent, dependent upon other individuals to exchange his finished product for the finished products which they are producing.

The next stage in the development of labor coöperation is known as division of labor. Instead of one man going to the woods, felling a tree, hewing it into lumber, and making a house with it, several men go into the woods, one man chops at the tree, another saws at it, while a third and a fourth cut it up into logs, load it on a wagon, and haul it to the sawmill. In this case several men are coöperating, but each is performing a different part of the same task.

The fourth stage, represented by modern society, is known as complex division of labor. In this stage not only do men perform each his part of a large task, but the task itself is subdivided by what is called specialization in industry. The man who comes to the woods provides himself with an ax, which was manufactured in an establishment employing 500 people, each of whom had a part in the making of the ax. As a body, therefore, these 500 people have contributed one unit, the ax, to the cutting of the tree, but each one of the 500 persons has contributed only a small portion of the work necessary to provide the ax. Instead of having a village blacksmith make a tool to assist in lumbering, 500 people coöperate and make the tool. Each one does a different thing, and the result of this complex division of labor is an ax.

The groups which produced the saw, the wagon, the clothing, and the other essentials in the lumbering operation were likewise composed of a number of individuals who coöperated to provide one part of the process of lumbering, and therefore assisted production by means of complex division of labor.

In the time of Abraham Lincoln, one man made nails,

with a hammer, on an anvil. This was a case of division of employments. The man had the whole process of nail making, and he carried it on from the beginning to the end. To-day one hundred men, with the aid of machinery, cooperate to make nails in a factory, and while one man in 1860 made one nail, one hundred men in 1900 make one hundred pounds of nails.

This coöperation in slightly different forms is carried through all of the processes of the modern business world. Twenty-five years ago, if a run was started on a bank, the bank was allowed to fail, although it might be perfectly solvent at the time. To-day, if a run is begun on a bank, and the bank is solvent, all of the other banks in the community will join together and supply the funds necessary to pay the depositors who are clamoring for their money. In this way the bank is tided over an emergency. Bankers generally have learned that the failure of one bank hurts all of the banks, and they, therefore, refuse to allow it to go down.

In the same way, manufacturers, wholesalers, and merchants coöperate to maintain and further their interests. An unfriendly act to one of a group of wholesalers is regarded by the group as an unfriendly act to all and is treated accordingly. The retail grocers' associations of the various towns and cities act in a way that will result in protection for all of the retail grocers. The trust is nothing more than a specialized form of coöperation.

Through coöperation of labor, goods are produced more cheaply and better in quality than when individuals do the work. The persons who are coöperating learn intimately the several tasks which they have to perform. They can therefore do their work much more effectively than if they were assigned to a task which involved a large number of separate operations. The hundred workers in a shoe factory acquire the capacity to produce shoes much more readily than the individual shoemaker who makes a whole shoe.

One of the great advantages of coöperation is that it

makes possible the use of machinery. When an involved operation, such, for example, as the making of shoes, has been subdivided into forty or fifty separate operations, certain portions of the rougher work can be done more quickly and more cheaply by machinery than by human hands. Inventive genius is brought to bear and labor-saving machinery is developed to take the place of human energy. The sewing machine, stitching through heavy leather, makes a better and far more speedy seam than that of the individual hand worker.

The effect of coöperation is to supply to each member of the community a greater amount of economic goods than he or she could possibly secure if no coöperation existed.

With these apparent advantages of coöperation, however, come certain disadvantages. Like all other institutions, it frequently forces members of the community to do things against their wills. Men coöperate to-day, not so much because they want to, as because they have to. A man in the modern city cannot possibly obtain anything to eat or wear, unless by begging, without performing some service which is desired by another person and which the other person is willing to pay for in money. This money can then be exchanged and the wants of the worker supplied.

So long as men decide to live together in communities, coöperation is necessary for the good of all concerned. It results, through a high specialization of machinery and skill, in a greatly increased and wonderfully cheapened product, and, if its full benefits are secured, coöperation will result in leisure for those who engage in it.

For successful coöperation, there are certain essentials, of which the most important are: —

1. Confidence in members of the group. If one person is to coöperate with others, he must have faith that the others are willing and anxious to coöperate with him and that they will do their share, as he is doing his, to make the coöperation successful.

2. Honesty, which is the complement of confidence. If the community is to coöperate with a man, it must know him to be honest. Once let his honesty be doubted, and the coöperation with him must be unsatisfactory, because it cannot be carried on in a spirit of good faith.

3. Willingness to give up individual liberty. In order to coöperate the direction of the operation must be given to one individual. This individual may be selected by a majority of the group, but with the defects in human nature, which are encountered in any group, such a system will inevitably result in forcing some to do things which they do not desire to do. While this can be reduced to a minimum, it must always be present in coöperative societies, and the persons who coöperate must recognize the fact that the good social results secured from coöperation are such as to justify a slight personal inconvenience in the loss of perfect independence.

4. Ability and willingness to specialize. As has been pointed out, in order to insure successful coöperation, one man must do one thing, another man another thing, and these things must both be of a character that will conduce to the greatest good of the group which is coöperating.

5. Steadiness in work and consistency in effort. Men are valueless in a coöperative society unless they can be depended upon to do their share regularly and consistently.

6. Ability and willingness to do efficient work. The example of one man doing good work will lead those coöperating with him to do better work, while one indifferent or incapable worker will influence a whole group to do less effective work.

While there are other essentials for successful coöperation, these are perhaps the most important ones. In modern coöperative society they are therefore the ones that should be most emphasized in attempts to create efficiency through the development of a more advanced and more desirable spirit of coöperation.

TOPICS FOR CLASS DISCUSSION

1. What is the relation between labor coöperation and economic progress?
2. Discuss the importance of labor coöperation in securing increased production.
3. What kinds of benefits are derived from labor coöperation?
4. What is the nature of the burdens that labor coöperation imposes?
5. Who reaps the benefits of labor coöperation?
6. Who bears the burdens of labor coöperation?
7. Is coöperation increasing or decreasing in extent?
8. Is labor coöperation more or less important to society than it was ten years ago?
9. Can the burdens of coöperation be so distributed as to bear less harshly on any one group?
10. What is the relation between labor coöperation and large-scale production?
11. What is the relation between labor coöperation and specialization in industry?
12. Is modern labor coöperation voluntary?

CHAPTER XXVI

THE FACTORY SYSTEM

THE factory system in America is one of the distinct products of the nineteenth century. At the close of the eighteenth century a domestic system of manufacturing prevailed throughout the United States.

In order to insure her monopoly of manufactured products, England had used every effort to prevent the colonies from developing any industries other than those which resulted in raw products. England's policy was to have her colonies produce raw materials, ship them to England, and take in return the manufactured products which England created from these raw materials.

To preserve this monopoly of manufacturing, a law was passed toward the end of the eighteenth century making it an offense, punishable by a year's imprisonment and a fine of $1000, to put on board a vessel for exportation any "machine, engine, tool, press, paper, utensil or implement, or any part thereof, which now or hereafter may be used in the woolen, cotton, or silk manufacture." These provisions were rather strictly enforced, and for a considerable time after the Revolution the American colonies had great difficulty in securing any models on which to construct the various kinds of machinery needed in the development of the textile industry. To overcome the difficulty Americans began to invent their own machines.

A factory is variously defined. Carroll D. Wright says: "A factory is an establishment where several workmen are

collected for the purpose of obtaining greater and cheaper conveniences for labor than they could procure individually at their homes." If this definition is accepted, a factory is a specialized form of labor coöperation, a central point where labor can most conveniently assemble and coöperate.

In contrast with the factory system is the domestic system, which was worked out more completely in England than in America. Writing in 1724, Daniel Defoe says: "The land was divided into small enclosures, from two acres to six or seven each, seldom more, every three or four pieces of land having a house belonging to them, hardly a house standing out of speaking distance from another. We could see at every house a tentee and on almost every tentee a piece of cloth or kersie or shallon. At every considerable house there was a manufactory." The householder thus had an industry upon which he depended for his livelihood together with a small strip of land from which he could secure a great many of the necessary items which entered into his household budget, and it is notable that Defoe closes his statement with the words, "Not a beggar to be seen or an idle person."

The factory system necessitated an abandonment of the small farm and the assembling of the population in cities. Also with the factory system has come a complex division of labor and a specialization in industry which make all parts of the world interdependent for their products.

The central force of the factory system is the application of mechanical power to mechanical appliances which take the place of human strength in the manufacturing of products. The specialization of these appliances in the form of labor-saving machinery dispenses with a large number of workers, who are thus free to develop new industries. The record of the nineteenth century is one long history of the replacement of men by machinery and the development of new industries by the men thus replaced.

Half of the population is to-day engaged in occupations

that had no existence or that were not even dreamed of at the close of the Revolution. It is estimated, for example, that two and a half millions of people are directly or indirectly dependent upon the railroads of the country. Railroads are a product of the last half of the nineteenth century.

In 1792, by the invention of the cotton gin, Eli Whitney contributed tremendously toward the development of the factory system. Up to that time cotton had been used by the rich only, because of the great expense of separating the seed from the fiber. Whitney's invention made cheap cotton possible, and cheap cotton meant an enormously increased consumption. In 1830 the value of the products of cotton manufacture was $22,000,000, while in 1900 it was $339,000,000, an increase of 1500 per cent.

In 1814 a factory was set up at Waltham, Mass., which, so far as known, was the first to combine all of the processes from the working over of the raw material to the turning out of the finished product, under one roof. The first essential to the factory system was mechanical power; the second was division of labor and labor-saving machinery; and the third, the control by one person of all of the processes from the raw to the finished product.

During the nineteenth century, many industries have been changed from a domestic basis to a factory basis. Three generations ago the shoemaker traveled from house to house and made up the shoes for the family, or had a small shop to which the family came and ordered their shoes. To-day factories with payrolls of $10,000 a week turn out shoes at low prices and send them to all parts of the world.

Some idea of the advantage of the factory system over a system of home industry will be gotten from the following illustration, prepared by the United States Department of Labor, relative to the manufacture of one hundred pairs of "Men's medium-grade, calf, welt, lace shoes, single soles, soft box toes." The first column represents the conditions in 1863 of domestic manufacturing. The second column

represents the conditions in 1895 of a thorough development of the factory system.

	1863	1895
Different operations performed	73	173
Different workmen employed	1	371
Time of work — hours	1831	234
Time of work — minutes	40	36.3
Labor cost	$457.9164	$59.5461

One of the most surprising things about the table is the reduction of the labor cost from $457 to $59. The number of persons working on the shoes has increased from 1 to 371, and at the same time the total labor cost has decreased 800 per cent. With this reduction in the labor cost, there has, of course, been a great increase in the cost of tools and machinery.

It is even more lately that underclothing, stockings, and even outer clothing were made in the homes. To-day there are firms in the country which turn out 10,000 dozen pairs of hosiery each week, — hosiery of every conceivable size, shape, texture, and color. There are clothing factories in which cloth, started as a bale on the fifth floor, comes out on the first floor in the form of coats, trousers, vests, and overcoats.

In the country districts people still can fruit for family consumption during the winter. But fruit, vegetables, fish, and meats are now successfully canned in factories at a cost far below that of the housewife for the same work, and if the processes are properly guarded, in a far more cleanly and satisfactory manner.

Breakfast foods, bread, crackers, cakes, and cereal products generally are made on a great scale, in factories centrally located, and shipped hundreds of miles to consumers. This industry is one of comparatively modern development.

The beef-packing industry has been developed on a factory scale since about the middle of the nineteenth century. To-day the Middle West supplies the entire country with meat and ships many of its products abroad.

The factory system means a decrease in the number of establishments, a large increase in the amount of capital invested, a lesser relative increase in the number of wage earners employed, and a greatly increased production. For example, in 1840, there were 1240 establishments manufacturing cotton goods. In 1900 there were 973 establishments, but the capital invested in cotton goods increased from $51,000,000 in 1840 to $460,000,000 in 1900; the number of wage earners increased from 72,000 to 297,000; and the amount of product from $46,000,000 to $339,000,000.

Examples of this same relative increase might be secured from nearly every industry in the United States.

On the whole, the factory system, like the system of large-scale production, which will be discussed later, is advantageous to the community, because it provides a greater amount of economic goods, but the individual or domestic producer is as powerless in competition with the factory system as the naked savage is against a Gatling gun. Persons who live in a community where the factory system exists must abide by the conditions which the factory system imposes. That some of these conditions are injurious, as at present found, is unquestioned. For example, the employment of young children in factories is certainly detrimental. The dust, high temperature, and lack of ventilation in some factories is detrimental to all the operatives in them. The machinery, when improperly guarded or wholly unguarded, is dangerous to life and limb. The congested populations of cities, resulting in part from the factory system, present one of the great problems of modern times.

All of these things are, however, incidents to the factory system and not essential parts of it, and they can be as completely eliminated from it as scale can be eliminated from an apple tree; but if they are permitted to remain, they will be as serious to the community at large as uncared-for scale is to the apple orchard.

TOPICS FOR CLASS DISCUSSION

1. What has the factory system meant to society?
2. What are the leading causes of the development of the factory system?
3. Who receives the greatest benefits from the factory system?
4. What are the chief evils of the factory system?
5. Can the evils of the factory system be separated from it? If so, how?
6. Upon what group or groups do the burdens of the factory system fall?
7. What changes would distribute these burdens more equitably?
8. Was the factory system inevitable?
9. Are there any ways in which the factory system can be superseded?
10. Has the increased amount of goods produced under the factory system made up for the loss in individuality which has been the lot of many?
11. Outline the economic effects upon society of the factory system.

CHAPTER XXVII

INVENTIONS

(*a*) Inventions and Industry

INVENTIONS and mechanical discoveries have made possible modern industry. Without the inventions of the last one hundred and fifty years, men would still be working singly and inefficiently in an attempt to supply food, clothing, and shelter for themselves and for those dependent on them.

Inventions can be classed in three groups, — those applying power to industry, those which result in developing transportation, and those furnishing labor-saving machinery.

Before any of the other inventions could be successful power must be applied to industry. Man's strength is infinitesimal. Some outside force must be brought in to make the wheels go around. If industry is to develop, the turning, lifting, hauling, and carrying must be done, not by man, but by steam or electricity.

Putting aside the early and unimportant applications of water and air power to industry, the first great step forward was taken when steam was discovered and applied as an industrial factor. Out of the use of coal and the application of steam to industry have come almost all of the transportation and labor-saving devices. The nineteenth century saw the most important step thus far taken, — the development of electricity. The end of the coal fields was already in sight and the possibility of securing power through some other means had become a vital problem when it was found that electricity

could be generated from water power and carried to considerable distances for commercial uses.

This discovery and the uses to which it has since been put have brought electricity forward as the power of the future. Its cheapness and efficiency makes its use in modern industry indispensable. Steam-driven machinery will of necessity predominate for many years to come, but unless there is a change in present tendencies, more industry will be put on an electrical basis each year. The development which is most needed is a device for carrying the electric current over great distances without the heavy losses incident to present methods.

After it had been discovered that the wheels of industry could be driven more cheaply and efficiently by mechanical forces than by human labor, another necessity arose. Commodities must be sent from one part of the country to another. The coöperation of modern society would be impossible without transportation. Grain could not be grown in the fields of the West nor could iron be manufactured in Pittsburg. All industry must be localized where there is no transportation. The development of the railway, the telephone, the telegraph, the trolley car, and the automobile on a commercial basis have given men a greater amount of control over environing conditions. Transportation makes it possible to annihilate space and carry commodities from a central point of production and market them more cheaply than they can be produced in the locality.

The third group of inventions, including those of labor-saving machinery, has been more highly developed in the United States than in any other country. The Yankee is noted for doing nothing by hand that can be done more cheaply or quickly by machinery. He uses his brains twice and his muscles once, trying always to make power work for him, instead of attempting to do the work with his own limited amount of energy and strength. The result has been a great increase in the number of labor-saving devices produced.

Fifty years ago heavy masses of iron and lumber were lifted and carried by human muscles. To-day an electric crane is used to do the heavy lifting and carrying.

Any one who enters a steel mill is impressed with the fact that machinery is doing the work and man is only present in the capacity of a directing power. He neither lifts nor carries. The machinery does it all.

When Benjamin Franklin printed his Almanac, each page had to be pressed against the type by means of a hand press. To-day a roll of paper goes into one end of a machine and comes out at the other printed in one or several colors, cut to the desired size, and folded.

In all directions, man has conquered his environment and made his life more regular and pleasant by having brute force replaced by steam or electricity.

Modern industry is built on inventions. Without inventions the modern coöperative community would be impossible. Men have learned that, working together with the aid of machinery, they can produce far more than they could working separately without machinery's aid. Civilization in the twentieth century means thorough schooling in this fundamental principle. Machinery is a slave, willing and docile if handled by the right master. The more work that is done by the slave the less need be done by human beings.

Inventions have thus revolutionized industry and changed it from a basis of individual work to a basis of social coöperation. The whole world has been knit closely together by the necessity for economic interchanges. Modern invention has turned chaos into unity and made communities interdependent. From interdependence and coöperation come common understanding and good feeling.

(*b*) Inventions and the Home

The effect of inventions on the home is no less striking and important than their effect upon industry. Inventions

may affect the home directly or indirectly. The introduction of improved washing soap that removes dirt more easily from the clothes and thus lightens the task of washing affects the home directly by making the work in the home easier. The invention of machinery which will make stockings in a factory more easily and cheaply than they can be made at home with knitting needles affects the home indirectly by taking work out of the home and putting it in the factory.

The modern audience melts with pity at the description of the Indian woman carrying the baggage and the children, digging the ground, and doing the other menial work incident to the life of the Indians. It is easy to see that the Indian woman was required to do the drudgery. It is difficult to see that exactly the same thing is required of the woman in modern society.

The average woman, that is, the woman who is not able to keep a servant, spends her life in drudgery. She must wait upon and do the bidding of three Furies, — cleaning, cooking, and sewing. Men go out to work; they see new faces and new things; they have excitement and change. Their work is exhilarating and their lives, at least to some extent, eventful. To the woman who is required to do housework, one day is like another for three hundred and sixty-five days in the year. She tends to the fire, she washes dishes, she sweeps and dusts; but the fire never ceases to need tending, the dishes never cease to need cleaning, and the socks never cease to need mending. The woman apparently accomplishes nothing. Her tasks are monotonous and endless. She never finishes. Hence comes the old rhyme: —

> "A man's work is from sun to sun,
> But a woman's work is never done."

Perhaps this picture is too black. Those who are living to-day with the improvements and inventions that have come into general use will deny that woman's life is so purposeless

and monotonous as the statement in the last paragraph would seem to imply. It is true that every year the improvements that society is making tend to make her life less monotonous and more eventful and purposeful.

The carpet sweeper has replaced the broom in many thousands of homes and has obviated much hard work and the raising of much unnecessary dust with its consequent discomforts.

Improved methods of carpet cleaning and floor cleaning by compressed air devices have relieved the housewife of some of the disagreeable tasks which formerly fell to her lot. These two devices are not as yet generally employed, but they are coming into more common use every day.

The washing machine, substituting a motion of the arms and shoulders for the motion of the small of the back, which is necessary in working over a washboard, has materially lightened the burden of the woman who washes. It is also an aid because boiling water can be used in the washing machine, as the water there does not come in contact with the hands. The invention of improved washing powders and washing soaps which remove the dirt more quickly and easily, and the perfection of laundry systems which will make it possible to have some of the heavy work done at a laundry instead of at home, form other important steps in the lightening of the toil of home makers.

Perhaps the most important element in facilitating cooking has been the perfection of the stove. For those who cooked over an open fire, baking was all but impossible. The stove permits baking and therefore enlarges the diet which the family may enjoy, and it greatly facilitates the work of cooking by adding conveniences which the open fire did not provide.

The use of gas and electric stoves for cooking in the summer time is becoming fairly general in the cities. The ease with which the stoves can be lighted and put out, the absence of heat, and the cleanliness attendant upon the use of gas and

electricity are all items in making these improvements important in lightening housework.

But when all is said there is still the old problem of dish washing to face. Dishes get dirty at every meal and they must be washed in preparation for the next meal. The process is a never ending one, and an invention which will make it unnecessary will be a boon to all housewives. Whether the change is made by having dishes of paper or some other cheap substance which can be destroyed after every meal, or whether it will be made in some other equally effective way, is unimportant. The change should be made, and it will in the course of progress.

The last half century has taken from the home a great amount of the cooking work which formerly fell to the housewife. The preparation of breakfast foods in factories, the baking of bread and rolls in large bakeries, the canning of fruits and vegetables, and the preparation of meats has meant that less work need be done at home. Every year more of it is put on a basis of factory coöperation.

Every year three quarters of a million of sewing machines are manufactured and placed in American households. The advent of the sewing machine, the steel needle, and the cheap pin have transformed this branch of the housewife's work until it has become almost easy. The invention of holeproof socks will eventually do away with much of the darning. The making in factories of clothing renders it unnecessary for the housewife to exert herself in this direction.

The path of progress is clear. There is no more reason why the woman in modern civilization should scrub and cook and darn and dust than there is why these things should be done by men. The development of improved machinery and the growth of labor-saving devices of all kinds will finally obviate the necessity of doing these things each day in each home through the land. Coöperation, which we are slowly learning to greet as a friend, will overcome the

drudgery and make the life of the woman as enjoyable and eventful as that of the man.

TOPICS FOR CLASS DISCUSSION

1. What is the importance of inventions to society?
2. What is the importance of inventions to industry?
3. Where do the benefits of inventions go?
4. Are inventions encouraged by the present patent law?
5. What is the most effectual way of encouraging inventors?
6. Is there still room for inventions in industry?
7. What effects have inventions had upon the home?
8. Discuss the relation between industrial inventions and the home.
9. Along what lines should new industrial inventions be made?
10. Along what lines should inventions affecting the home be developed?

CHAPTER XXVIII

LARGE-SCALE PRODUCTION

LARGE-SCALE production is an indefinite term and in reality is merely relative. A process that would be classed as large-scale production in one generation would not be so classed in the next because of improved methods; and further, it is impossible to say when small-scale production ceases and large-scale production commences in any given case. It is, however, possible to broadly define large-scale production as production which is carried on with sufficient capital to enable the producers to employ all of the most modern appliances and methods to facilitate and cheapen production.

Perhaps this definition conveys a vague impression and can best be illustrated by an actual instance. Iron ore was discovered in the Lake Superior region when the iron industry of the country was already centered at Pittsburg. Instead of moving the industry from Pittsburg, the coal supply, to the Great Lakes, the iron supply, the manufacturers of iron chose to transport the iron ore to the coal district.

The great problem was therefore the cheap transportation of the iron ore to Pittsburg. Steamboats were employed to carry the ore down the lakes from the Lake Superior region to a point near Pittsburg, and the ore was unloaded from the boats with hand tools such as wheelbarrows and shovels. Such a method would be characterized as small-scale production.

In contrast with this method of twenty-five years ago, there is the modern system of large-scale production. To-

day the ore is dug from some of the ore fields with a steam shovel, just as dirt is dug out of a railroad cut. The steam shovel throws the ore on the cars, which are hauled to the lake side and the contents emptied into a high ore wharf. From this wharf, the iron ore is dropped through chutes into the hold of the ore ships. In all of these processes no muscular energy has been devoted to lifting a single pound of the iron ore. All of this work has been done by mechanical means.

The ore vessel proceeds to the lower lake ports, where special electric machinery operates huge grab buckets which drop into the hold of the ship, grab from six to ten tons of ore at once, and carry it to the cars waiting to convey it to Pittsburg. By means of these grabs working on a modern ship, ten thousand tons of ore have been transferred from the vessel to the cars in six hours. The process of unloading the ore reduces the cost to the phenomenal sum of two cents a ton, a price inconceivable to the small-scale producer, performing the work by hand labor.

But this series of mechanical appliances was not put in operation for nothing. The unloading plant itself cost a quarter of a million dollars. A small-scale producer of iron would not have so much money in his entire plant, but in modern large-scale production a firm is able to invest in one of its tools $250,000, and by being able to do this, the cost of the product is materially reduced.

Exactly the same thing is true in all of the processes in a modern steel mill. On going into a department, one is impressed with the fact that all is machinery. There are a dozen men scattered around the room, but the five or ten ton ingots of steel are sent through the rolls, reduced to the required size, cut, finished, and delivered on to the cars to be carried to other departments of the mills, — all without the intervention of any muscular force.

The individual or corporation who is in the position to utilize methods and appliances which will reduce the cost

of production to a minimum is in a position to carry on large-scale production.

Large-scale production is of comparatively modern development. It has been developed during the last quarter of the nineteenth century because the great aggregations of capital have made possible the installation of the mechanical appliances on which large-scale production so intimately depends.

Iron and steel industries are not alone in adopting large-scale production. It has spread to the Standard Oil Company, sugar-refining companies, beef packers, biscuit and bread bakers, makers of electrical appliances, makers of locomotives, and, indeed, to practically all of the leading industries in the country.

Large-scale production means a centralization of larger amounts of capital, of more wage workers, and of a greater product in fewer and fewer establishments. Instances showing this development can be picked from the census tables almost at random. For example, the starch industry had in 1850 a capital of $692,000; it employed 694 wage earners and produced $1,261,000 worth of product in 146 establishments. By 1870 the capital had increased to $2,741,000, the number of wage workers to 2072, the product to $5,994,000, and the number of establishments to 195. Here begins the era of large-scale production, and in 1900, thirty years later, while the amount of capital invested was $11,671,000, the number of wage workers employed 2655, and the amount of the product $9,232,000, the number of establishments had decreased to 124.

The same thing is brought out in the case of the slaughtering and packing industry. In 1880 the capital invested in this field was $49,419,000, the number of wage workers employed 27,000, the value of the product $303,562,000. In 1900 the capital invested was $189,198,000, the number of wage workers 68,000, the amount of product, $785,532,000. In this case the value of the product in 1900 was more than

double that in 1880, and yet the increase in the number of establishments during this period of twenty years was from 872 to 921, or only 5 per cent.

The conditions in the iron industry are particularly interesting, for there large-scale production has been brought to its highest perfection. In 1870 the production of pig iron employed $56,145,000 in capital and 27,000 wage earners. The value of the product was $69,640,000 and the number of establishments engaged in the industry, 386. While there was a steady increase in the amount of capital and the value of the product, the number of wage earners was 41,000 in 1880, 33,000 in 1890, and 39,000 in 1900, showing that large-scale production in the pig iron business is being carried on with less human, brute strength. The number of establishments was 341 in 1880, 304 in 1890, and 224 in 1900, or a little more than half the number that there were in 1870. The capital invested was $148,226,000, or three times the amount in 1870, and the value of the product was $226,823,000, or three times the value of 1870.

Numerous other industries which have developed large-scale production might be cited to show a decrease in the number of establishments, and a small increase in the number of wage workers, side by side with a vast growth in capital and in the value of the product.

Aside from the advantages derived through utilization of superior machinery, another most important advantage of large-scale production is the possibility which it presents to the producer of controlling the product from the time it is raw material in its natural state until it leaves his hands a finished or semifinished product.

The control which may be exercised in this way is perhaps best illustrated in the development of the Carnegie Steel Company. Up to the time that Mr. Carnegie took the matter in hand, the raw material (ore and coke) was under one control, the manufacture of the pig iron under another control, and the manufacture of the finished product

under still a third control. The result was instability in prices and at times great difficulty in securing raw material. To obviate this difficulty, Mr. Carnegie combined his own works with the H. C. Frick Coal and Coke Company, thus securing a large supply of the best coal and the largest coke works in the Connellsville region. The Frick Company supplied the Carnegie works with coke practically at cost, thus eliminating the profits on coke, which were an important item to competitors.

Mr. Carnegie's next move was to secure possession of extensive ore fields in the lake region. To make this control of the greatest value, the next step was to secure possession of the means of transporting the ore to the mills at Pittsburg. This was made possible by securing the control of the Pittsburg Steamboat and Steamship Company, which operates eleven steamships and two tugboats, and of the Pittsburg and Lake Erie Railroad Company, running from the Lakes to Pittsburg. These lines, thoroughly equipped and in some cases rebuilt, carried ore for the Carnegie works at the phenomenal rate of one mill per ton mile.

This series of combinations made the Carnegie works independent of fluctuating prices and assured them a constant supply of raw material at cost, thus giving them the control of their product from the time it left the ore beds or the coal mines to the time when it was loaded by them on the cars as a semifinished or finished product.

From these illustrations it will readily be seen how valuable it is to the producer to be able to control both raw material and the processes of transportation as well as the immediate processes of the transformation of the raw material to a finished product.

The chief causes of the development in large-scale production are: —

1. The inventions of machinery and mechanical devices to take the place of human muscular power.

2. The application of steam to industry. This is an

essential part of the development of inventions and mechanical appliances, because mechanical appliances would be useless without some kind of a power to drive them. In this application of steam to industry is included the development of the steamboat and the railroad and the various kinds of factory machinery which have played so large a part in industrial development.

3. The development of labor-saving machinery. While falling more or less under the first two headings, this third group is in a measure distinctive because, while in many countries power is applied to industry, in no country perhaps has the labor-saving machinery been so highly developed as in the United States.

4. The development through immigration of a large unskilled labor force. Great numbers of immigrant laborers began to come to the United States in the middle of the nineteenth century, and, with the exception of a few intermittent periods, immigrants have been coming in large numbers ever since. The building of railroads, the development of manufacturing, in fact, the growth of most American industries, have been carried on by this cheap foreign labor.

All of these factors combined have developed a transportation system without which the large-scale production of the country would be impossible. For example, without improved methods of packing and rapid freight transportation, it would not be possible to produce the meat that Chicago sends all over the world. Without cheap transportation the fruit grown in the West would not be sent to the East to feed the manufacturing population.

Large-scale production is dependent for its existence primarily upon mechanical power and mechanical ingenuity. It is a growth in business organization that owes its existence to the presence of ingenuity and organizing ability in the labor force.

TOPICS FOR CLASS DISCUSSION

1. Outline the chief factors which have made large-scale production possible.
2. What effect have inventions had on large-scale production?
3. What is the relation between large-scale production and monopolies?
4. Discuss the chief advantages of large-scale production.
5. What group in the community benefits most from large-scale production?
6. Discuss the chief disadvantages of large-scale production.
7. Upon what group do these burdens rest most heavily?
8. Are these disadvantages an integral part of, or are they merely incidental to, large-scale production?
9. Is the tendency toward smaller or larger productive units? Why?
10. Could modern society exist without large-scale production?
11. Discuss the economic effects on China of introducing a system of large-scale production.

CHAPTER XXIX

THE UTILIZATION OF BY-PRODUCTS

By-products are the waste of industry. Webster defines waste as "that which is of no value; worthless remnants, refuse, especially the refuse of cotton, silk, or the like." In modern industry profits are made through the utilization of that which was formerly thrown away.

Any one riding through the hard coal fields will recollect the great black mountains of culm. For years the hard coal was broken up, the larger sizes screened out and sent to market, and the refuse thrown on the culm dump. Through the perfection of a plan for consuming small or "steam" sizes of coal, it has become possible to utilize, not only the chestnut coal, but pea, buckwheat, and "dust." The latter is so fine that the separate pieces of coal are barely perceptible. In order to secure these steam sizes, the culm dumps are being washed and screened. In some cases, it is said that these piles of "waste," or, as they are now called, by-products, are often worth more than the well-nigh exhausted coal mines from which they have been dug.

It is not always wise to avoid by-products, but it is always wise to use them. The progress of a country may be assured or impaired as its producers utilize the waste products of industry. These products may be useless to the person who produces them, in fact, this is often the case; but they can be utilized by some one. As a matter of fact, there should be no organic waste from any industry.

The presence of organic waste is an indication that the industry has not been developed to its highest possibilities.

Some people have even gone so far as to say that whereas the consumption of soap and the number of books circulated through the public libraries are ordinarily taken as a mark of the advance of civilization, the true measure of our development along industrial lines is the use made of the waste materials of industry and housekeeping.

In the development of by-product utilization, chemistry has always played a leading part. It has come to be the intellect of industrial development. In speaking of the work of chemistry in this direction, Lord Playfair says: "The dregs of port wine carefully rejected by the port wine drinker in decanting his favorite beverage are taken by him in the morning as Seidlitz powders to remove the effects of his debauch. The offal of the streets and the washings of coal gas reappear carefully preserved in the lady's smelling bottle or are used by her to flavor her blanc mange for her friends."

There are several notable instances in which the use of by-products has been developed to a surprising extent. For example, slag, or waste from iron furnaces, has been experimented upon and used in numerous ways. The importance of some method of utilizing the slag may be gathered from the statement that it costs about two and a half million dollars annually to remove the slag from the iron furnaces of England.

From granulated slag, bricks are made which can be heated to the decomposing point of carbonate of lime. These bricks are used chiefly for lining chimneys and lime kilns. The Russians have developed a slag brick which is very strong and requires less mortar than stone.

Slag cement is made from blast-furnace slag and slacked lime. This use of the slag has been developed particularly in Alabama in connection with the recent growth of the iron industry there.

One of the leading developments of the iron industry has been the utilization of gases created in the blast furnace to run various kinds of machinery. In Germany, where the

most careful statistics have been compiled, it is estimated that the value of gas is $1.25 per ton of pig iron produced, or in the neighborhood of ten million dollars annually for the German Empire.

In the lumber industry sawdust was formerly a waste product and was thrown into the streams on which the mills were built, clogging the water course. The limbs of the trees and the edgings from the boards were thrown away or used in the boiler for generating steam. In the modern sawmill larger limbs and edgings are turned into lath and other small lumber products. In some cases the sawdust is used for fuel. Elsewhere it is utilized even more effectively. In France it is solidified, intensely hot, in a hydraulic press, and made into a solid mass which can be polished more highly than ebony, rosewood, or mahogany. In Norway acetic acid, wood naphtha, and tar are produced from sawdust, and in the same factory charcoal briquettes are manufactured and exported to the Netherlands to be used as fuel. In England seven or eight quarts of alcohol are obtained from 220 pounds of air-dried sawdust. In the United States large amounts of sawdust are used in the manufacture of clay and pottery products.

In washing wool a large amount of the wool (about 15 per cent in weight) is removed in the form of fat. In most establishments where wool is washed, this fat is run out and allowed to float down the streams. The census of 1900 estimates that in this way from two to three million dollars is lost every year.

Perhaps the most interesting use of by-products is presented in the meat-packing industry. In fact, the packing of meat in the Middle West and shipping of it to all parts of the world would practically be impossible were it not for the system which has been developed of utilizing by-products.

The old slaughterhouse threw out these products as useless. Sometimes a drove of hogs was kept in connection with the slaughterhouse, and they ate such parts of the offal

as they wished, and the rest was allowed to putrefy. Now and then the bones were collected and sold, and the hides were kept in a more or less careless fashion. In great contrast with this small-scale production is the modern system of by-product utilization. The gray brain matter from calves' brains is turned into a medicine for the treatment of nervous diseases. From blood albumen, used by printers, tanners, and sugar refiners, is extracted. Bones are used for many purposes. Those coming from cooked meats are boiled, and from them fat and gelatin are extracted. The fat is used for soap and the gelatin for transparent coverings of capsules and like chemical products. Bones from the feet of cattle are turned into toothbrush handles, knife handles, chessmen, and other bone products. Knuckles from these bones are used in the manufacture of glue and fertilizer. The rib bones of the cattle are cooked, and the red bone marrow is extracted, and used as a medicinal food to increase the red corpuscles in the blood. In addition, bone produces bone meal, poultry food, and fertilizers.

From the horns and hoofs several important products are derived. The tip of the horn is cut off and split into layers and flattened. These plates are used in making combs, brush backs, and horn buttons. Horn scrap is ground into fertilizer. Hoofs are sorted into three kinds. The white hoofs go to Japan and are made into ornaments; striped hoofs are made into buttons and horn ornaments; and black hoofs are used for the production of cyanide of potassium.

From the fats glycerine is secured and used in the preparation of soap and various toilet articles. It is interesting to note that glycerine was once a waste product of palm-oil candles. As it made a bad smell in the candles, it was extracted from the palm oil and floated away in creeks and rivers. It is now estimated that some factories in this way were losing as much as $2000 a week, which might have been turned into clear profit by a little technical knowl-

edge. Until the industry was so seriously restricted, beef and hog fat, carefully washed and prepared, was used to make oleomargerine and butterine. Gelatine is a product of bones. About one fifth of the weight of animal bones consists of organic material which, when boiled out, forms gelatine or glue. The best gelatine is, however, secured from the trimmings of ox, sheep, and calf skins and scraps.

It is perhaps fair to say that in the great packing houses sausage is a by-product. While it may not be true that sausages consist of all of the materials attributed to it by *The Jungle*, it is perhaps fair to take the estimate of such a staid and dignified authority as the United States census of 1900, from which the following description of sausage making comes: —

"The manufacture of sausage brings to the packer greater profit for the amount of meat used than any other part of the hog. Sausage is made of trimmings which are the remnants of everything. Material for sausage comes from the ham-trimming department, from the butcher's bench at the market stall, from the killing room, and from the beef houses, particularly where the heads and hoofs are trimmed." If to this description we add that a large portion, estimated by some as high as 60 per cent, of the sausage consists of potato meal, it may rapidly be seen that the sausage is in reality a by-product of the meat industry.

It might be interesting to note in passing some of the by-products which are the result of the slaughtering industry. They are as follows: —

Gelatine	Curled Hair	Brewers'	Skins	Neats' foot
Glue	Bristles	isinglass	Wool	oil
Fertilizers	Soap stock	Glycerine from	Intestines	Bones
Hair	Hides	tallow	Albumen	Horns
			Blood	Hoofs

Glands and membranes which yield

Pepsin	Thyroids	Parotid substances
Thymus	Pancreatin	Supravenal capsules, etc.

The large Western packer is able to maintain his business against local competition through the aid of by-product utilization. This is in reality the only advantage that he has over the local butcher, but it is an advantage of such great importance that the meat packers can deliver dressed beef at almost any place in the United States, with reasonably good railroad connections, at a lower rate than the same beef can be dressed and prepared by the local butcher.

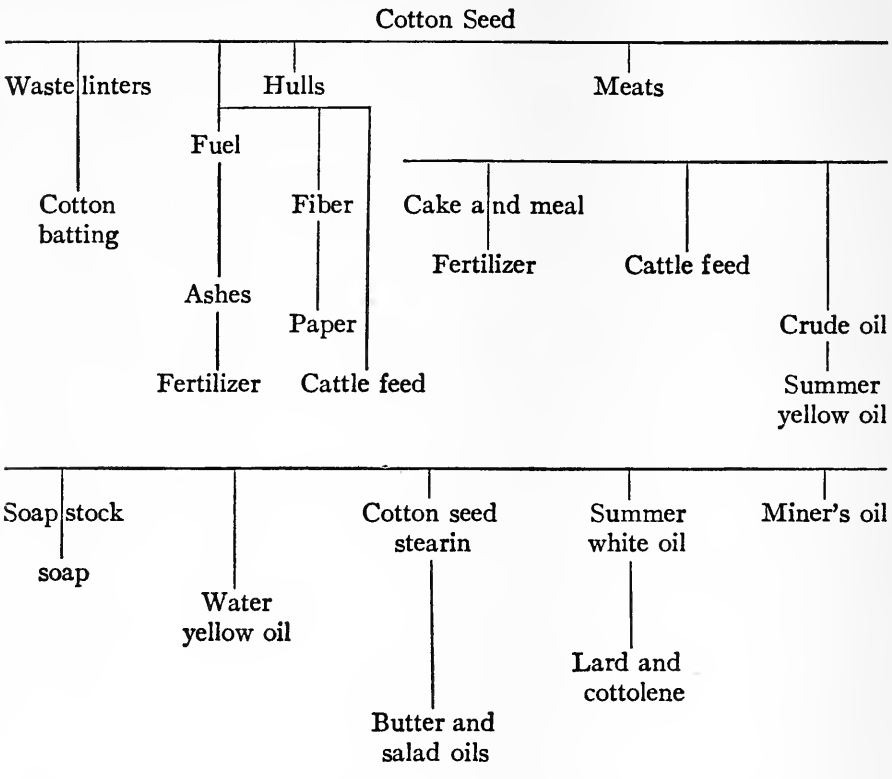
Perhaps the best-known utilization of by-products has come with the development of the cotton-seed oil industry. In 1850, cotton seed was a garbage; in 1870, a fertilizer; in 1880, cattle food; and in 1890, table food.

The problem of the early cotton ginner was how to get rid of the cotton seed. It became such a nuisance that laws were passed making it a punishable offense for ginners within certain town limits to allow cotton seed to lie around and rot, or to allow it to be dumped into the streams.

By 1870, 4 per cent of the seed produced was utilized in the manufacture of cotton-seed oil. According to the census in 1900 the cotton seed was worth 13.8 per cent of the cotton crop, or $50,000,000, yet only 53 per cent of the cotton seed was being utilized.

At first cotton seed was fed whole to stock, but later on it was found that it made a more valuable feed after the oil had been extracted. It is interesting to note that in the cotton-seed industry a by-product of a by-product has been developed to a highly valuable commercial asset. In the first cotton-seed mills the hulls of the seeds were removed from the meats and became a problem of the first importance. Sometimes they were burned, sometimes thrown away; but in late years it has been discovered that these hulls make excellent cattle feed, and they are baled and shipped, bringing good prices. It has also been discovered that the fiber on the outside of the hull can be removed and made into paper stock, and this is now being done with considerable success. The census of 1900 presents the

following diagram to show the use of by-products of the cotton-seed industry, which were formerly regarded as a nuisance and which now return to the country some $50,000,000 annually.



From these illustrations it will readily be understood that the statements made at the beginning of the chapter, to the effect that the nation which succeeded in utilizing all of the organic substances connected with its industries will in the long run be the most prosperous nation industrially, are literally true and worthy of the most careful consideration. There is no waste. The great problem is presented, not by waste, but by ignorance. Industry is on a scientific basis only when organic substances are utilized to the greatest advantage. Education is the foundation of science. Education is therefore of prime importance for successful industry.

TOPICS FOR CLASS DISCUSSION

1. Discuss the importance of by-products to modern industry.
2. What has been the chief cause of the utilization of by-products?
3. What is the relation between large-scale production and the use of by-products?
4. What is the relation between the use of by-products and specialization in industry?
5. Has the use of by-products been an influence in developing the factory system?
6. Does the saving through by-products benefit the consumer?
7. Does the use of by-products benefit the wage worker or the employer?
8. In what directions will improvements in the use of by-products be made?
9. What have been the economic effects of using by-products?

CHAPTER XXX

THE ADVANTAGES AND DISADVANTAGES OF LARGE-SCALE PRODUCTION

THE heading of this chapter is perhaps misleading because there are no real disadvantages of large-scale production. The disadvantages lie, not in the large-scale production, but in the abuse of the methods of carrying it on.

Large-scale production is the result of centuries of experience in the development of mechanical appliances, in the application of mechanical power to industry, and the consequent growth of man's control over nature. Large-scale production gives to the community in which it exists a larger amount of economic goods, a better grade of economic goods, and a greater opportunity for leisure in which to enjoy the better things of life.

The community in which each man produces the things that he needs has no surplus, and is therefore likely at any time to be overtaken by starvation. Not only does each man in such a community face this possibility, but he must spend all his waking hours in securing enough to maintain life. In a community where large-scale production prevails, the reverse is true. Through large-scale production men are supplied with a sufficient amount of economic goods to maintain a high degree of efficiency; they are provided with a surplus of economic goods which assists them in maintaining a regular consumption; and they have in addition sufficient leisure to enable them to develop abilities other than those necessary to supply their physical wants.

Large-scale production is an essential feature in modern life. Without it we would be unable to provide ourselves with the necessities and luxuries which we so freely enjoy. Ten men working together can do several times as much as ten men working separately. Our industrial civilization gains an increasing advantage with its size and the amount of its coöperation.

This large-scale production is advantageous to the community, but what are some of the specific features that make it of advantage?

1. Perhaps the chief advantage of a highly developed system of large-scale production consists in securing the raw material advantageously. In the chapter on Large-scale Production, the Carnegie Steel Company was cited as an instance of an enterprise in which all of the processes of production were controlled from the raw material in the mines to the finished product on the cars. The advantages in the stability of price and the certainty of supply under such a system are obvious.

2. The utilization of by-products. Some authorities would place this first among the advantages of large-scale production, and it is such an important item that it was discussed separately in the last chapter. It is sufficient here to remark that the utilization of by-products has been the leading factor in building up industries like that of meat packing, by securing to them advantages through cheapening of production that could not by any possibility be enjoyed by small producers.

3. The integration of industry. This was also illustrated by the development of the Carnegie Steel Company. Instead of having the iron mined by one company, the coal by another, the transportation furnished by another, a fourth company making the pig iron, a fifth the steel, and a sixth the rails, all of these various processes were combined under one management. By this method the profits which would otherwise go to a half-dozen different companies are

eliminated and the cost of production greatly lowered. Integration of industry is advantageous also because it guarantees to the manufacturer the quality of the raw product which he is securing.

4. Specialization in skill and management. The small industry is able to pay but small wages and cannot, therefore, secure the services of the best men in the market. When the Carnegie Steel Company saw the value of their famous superintendent, "Bill" Jones, they paid him $50,000 a year, a salary equivalent to that of the President of the United States. Such a sum would have ruined a small producer, but it was one of the elements in making the Carnegie Steel Company, because Jones was a man of great ability, and the money expended for his salary came back many times each year in the increased efficiency of the works. The same thing holds true of the skilled workman. The producer on a large scale can afford to pay high wages because he is producing more cheaply, and he may therefore secure the best workers that are to be had.

5. Specialization of machinery. As was pointed out in the case of the Carnegie Steel Company, when it became evident that the cost of securing Lake Superior ore would be decreased by installing an unloading plant at a cost of a quarter of a million dollars, this plant was at once installed. Two hundred and fifty thousand dollars would capitalize many of the smaller companies, but for a company producing on a large scale, it was utilized to furnish one of the tools of production. This specialization of machinery greatly cheapens the cost of producing, but it is possible only where the resources of the concern are very great.

6. Specialization in industry. The firm organized on a basis of large-scale production can afford to specialize to the extent of having one entire plant or department turn out a small part of the product. The branch of the industry devoted to this specialized work becomes skilled and par-

ticularly adapted to turning out a large product of good quality. The result is an increase in the amount produced, and a lessening of the expense of producing each article.

7. The utilization of the best and most up-to-date patents. In a great many industries, such, for example, as the production of steel, the whole fabric rests upon certain mechanical devices that have been perfected during recent years. The firm that is most prompt to avail itself of these devices and to utilize them to their full capacity is, in the long run, the firm which will succeed. Here, again, the existence of production on a large scale enables the producer to provide himself at almost any expense with the new patents which seem to be necessary.

These are the leading advantages directly obtained from a system of large-scale production. As has already been mentioned, the system of large-scale production is essentially advantageous, and it is only through its abuse that it becomes otherwise. In short, the disadvantages of large-scale production are incidents of its growth and can readily be eliminated from it. Among the chief of them are the following: —

1. Industry centralized in a few hands may be used to the detriment of the community. Thus far the development of large-scale production has meant the centralization in the hands of a small group of men of practically all of the industrial activities upon which the community is dependent for its existence. The opportunity thus furnished for corruption and the development of special privilege has been taken advantage of and has resulted in curtailing the freedom of the majority by restricting individual initiative in business.

2. This centralization of control places men in such positions of power that they may dictate terms disadvantageous to their employees without the latter being able successfully to meet them. The repeated blows dealt to trade unions during the last few years through the instru-

mentality of manufacturers' associations and employers' associations are the direct outcome of this centralization.

3. The result is a tendency to lower wages, to maintain long shifts, and to create hard working conditions. This has been brought about, not so much by lowering the standard of American workmen, as by importing immigrants, sometimes under contract, and putting them to work under distinctly un-American conditions.

4. Manufacturing on a large scale often leads to the turning out of inferior products. No one man or group of men is responsible for the finished article. Parts are assembled from factories all over the country, and the finished engine, carpet sweeper, or wagon is put on the market. But in the operation, no one has had the whole responsibility of turning out a good piece of work in the shape of a finished article. No one can point with pride to the finished article as "my work." The result is, that instead of having a pride in the workmanship of the product, men work as cheaply and as badly as they can, so long as they pass the foreman's inspection and draw their pay envelope.

5. The great cost of building competing plants makes it difficult to organize a company to compete with those already in existence. That means that, unless some artificial check is imposed, the large-scale producer or producers will virtually control the market.

6. The centralization of industry causes congestion of population, many of the results of which are detrimental to the workers. Enough has already been said concerning the detrimental effects of city life, and it is only necessary here to throw emphasis on the thought that a centralization of industry in large units causes a corresponding centralization of population.

In spite of the demands that men "get back to nature," it is probable that civilization will never again be carried on without the aid of large-scale production. The objections to it which have just been stated are objections which

can be readily met, and their causes remedied, by a judicious action on the part of the heads of the large enterprises, or, in case they fail to act, on the part of the people.

Large-scale production makes possible the creation of enormous quantities of wealth at a relatively small labor cost. In other words, it is the means of increasing productive efficiency, and thus securing to the individual the possibility of additional leisure and happiness. Men have become too accustomed to the bath tubs, gas stoves, automobiles, underclothing, newspapers, and other comforts of modern life to be persuaded to give them up. What is necessary is not the abolition of the system of large-scale production, but its organization and perfection along some lines, which will give to men the benefits just mentioned without involving the misery now incident to its continuance.

TOPICS FOR CLASS DISCUSSION

1. What is the chief advantage of large-scale production?
2. What group in the community profits most by this advantage?
3. What is the chief disadvantage of large-scale production?
4. What group suffers most from this disadvantage?
5. What is the effect of large-scale production on specialization in industry?
6. What is the relation between inventions and large-scale production?
7. What effect has large-scale production had on the producer?
8. What effect has large-scale production had on the consumer?
9. What effect has large-scale production had on the community?
10. Are the advantages derived by the public from large-scale production more numerous than the disadvantages?

CHAPTER XXXI

TENDENCIES IN BUSINESS ORGANIZATION

THUS far the problems of business organization have been considered in detail, and it may be worth while at this point to present a group picture in order to bring out the contrasts and developments of the problems and to show the way in which business organization is tending.

In the realm of natural resources men are slowly learning to let nature work for them. For years they relied upon water power. Then came the discovery of coal and the application of steam to industry, and water power was thrown to the wind. But coal is becoming scarce and expensive, and with the development of electricity water power has again taken a prominent place as a source of industrial energy. As the coal supplies become fewer and less accessible, water power will play a more and more important part. In this development the carrying of electricity for long distances from the source of the generating power will be a leading factor.

The days of the commercial fertilizer are not passed, but instead of attempting to cultivate poor land with the aid of commercial fertilizer, men are turning to the cultivation of good land with the aid of artificially supplied water and swamp drainage. The crop returns from these investments far more than justify the expenditure involved. The return is greater in proportion than the return secured on poor land with the aid of fertilizer.

The forests of the country, ruthlessly butchered for decades, are being preserved and developed for the twofold purpose

of checking drought and flood and providing a future timber supply.

Inland water ways, neglected when the development of the railroad promised to forever provide an adequate transportation system, are again being resorted to because of their cheapness and the inability of the railroads to meet the traffic demands. The center of attention is the Mississippi, connecting the Great Lakes and the Middle West with the Panama Canal.

It is interesting to note that, in all of these cases, the federal government is being called upon to interfere. A movement is on foot to have the State of New York develop and sell the water power of Niagara. The United States government has a land reclamation office which is spending millions annually in irrigating arid land and draining swamp land. The Bureau of Forestry at Washington and the various State bureaus are working for the preservation and development of the forests. A strong agitation is on foot to secure from the United States government an appropriation for the deepening and safeguarding of the Mississippi Basin water ways. In short, as the different sections of the country become more and more interdependent, we see more and more clearly that certain enterprises upon which all sections depend for their development must be administered by the central government in the interests of all.

Many of the enterprises are so vast in extent and the probability of immediate return is so questionable that private capital will not undertake them on a great scale. This is given as an additional argument why the government should do work like irrigating and swamp draining. The people of the United States believe that their natural resources must be preserved, and the consensus of enlightened opinion is that the federal government must do the work.

One of the most significant factors in business organization during the last half century has been the growth in the size of the productive units. In 1850, 185 establishments

were engaged in meat packing, and their total capital was $3,482,000, or $18,800 of capital for each establishment. In 1880 the number of establishments was 872, and the capital invested was $49,419,000, or $56,600 of capital per establishment. In 1900 the number of establishments had increased to 921, while the capital had increased to $189,198,000 or $205,900 per establishment. In fifty years the average capital per establishment has increased eleven times.

The same fact is as strikingly true of the production of pig iron. In 1870, 386 establishments were engaged in the production of pig iron, and their total capital was $56,145,000, or $145,400 per establishment. By 1900 the number of establishments had decreased to 224, but the total capital had increased to $148,226,000, or $661,700 per establishment. Similar figures might be cited for all of the larger industries to show the tendency toward an increase in the size of the productive units.

All production is being conducted on a large scale. This insures to the producer greater efficiency and less cost in production, and it should insure to the consumer a cheaper commodity. That it has already done so to some extent there can be no question. That it should do so to a greater extent in the future is equally obvious.

From the standpoint of labor, the most significant factor of business organization is the complex subdivision of employments. The ready-made coat passes through the hands of two or three hundred employees in a clothing factory. The ready-made shoe passes through the hands of a like number of employees in a shoe factory. As industry evolves, each person has a less and less complicated task to perform; and when the task has been reduced to a sufficient degree of mechanicalness, machinery is introduced to take the place of the person, who either operates the machinery and thus greatly increases the product, or else goes to a more skilled task, leaving a less skilled person to work with the machinery.

The effects of a complex division of labor will in the long run be disastrous to the labor force unless with the division of labor comes an increase in the amount of leisure and a development of educational facilities that will insure an "all-around man."

Not only is labor subdivided, but industry is being constantly specialized. The country blacksmith may build his own shop and forge. He may make his hammer, his drills, his chisel, and most of the other rough tools which he uses. He likewise manufactures bolts, washers, nuts, nails, and hardware of all kinds. In many country shops horseshoes are still made by the blacksmith at his anvil.

The modern blacksmith in the city buys each one of these articles from a different manufacturer, who has produced them by means of a highly complex division of labor in a specialized factory. For example, one factory will make horseshoes, another horseshoe nails, a third will make drills, a fourth bolts and nuts, and so on.

Under modern industrial conditions, it is inconceivable that one firm should produce all of the things which it needs in its manufacturing. As a matter of fact, the average machine or engine or complex tool of any description is not made by the man who sells it at all. He merely assembles from a great number of different places the various parts and puts them together and places them on the market as his product.

While the trust movement has brought together a large number of plants under one management, the tendency of the trust itself is to have each plant specialize on some particular product.

Next in importance to the development in the use of mechanical power is the invention and perfection of machinery to do, first, the work formerly done by human muscles, and second, the work formerly done by human dexterity.

The steam shovel, the steam plow, the steam or electric

crane, and many other devices which might be mentioned have for their purpose the saving of human muscles. They do the work which was formerly done by muscular force far more effectively and far more cheaply.

Labor-saving machinery takes the place of operatives when their tasks have become sufficiently mechanical for a machine to perform them. A roll of paper is placed at one end of an intricate machine, and from the other, at a rate so fast that one cannot count them, pours out a stream of printed, folded newspapers. In all industry labor-saving machinery is being used to assist in producing wealth.

This tendency to increase the amount of machinery employed is clearly shown by the census figures for the flour and grist mill industry. In 1850, there were 23,000 wage earners and $54,415,000 engaged in the industry, or $2360 of capital per wage earner. By 1900 the number of wage earners had increased to 37,000, while the amount of capital had increased to $214,718,000, or $5800 of capital per wage worker. In the production of pig iron 27,000 men and $56,145,000 were engaged in 1870, that is, $2080 of capital per worker. In 1900, 39,000 men and $148,226,000 were engaged in the industry, or $3800 of capital per worker. In both cases the value of the product increased in about the same proportion as the capital. The use of mechanical power, developed through machinery, increased to a great degree the efficiency of the individual worker.

As a result of the division of labor, specialization in industry, and the invention of complex machinery, an interesting condition of affairs has arisen where: —

1. A long period elapses between the production of economic goods and their final consumption or utilization. The cotton spun and woven in the Southern mills may lie in the warehouse of the wholesaler for six months or a year before it is turned into garments. Two or three months may elapse from the time the garments are manufactured until they are consumed. The steamship built in one or

two or even three years spends twenty years on the ocean before its usefulness disappears.

2. Men do not produce finished goods. Under a system of division of employments one man made a shoe, another a hat, another a coat. Under a system of complex division of labor and specialization in industry one man polishes the oil cup for a locomotive which hauls grain across the country to be turned into flour for his table. The man no longer produces his own flour. There are a thousand processes between his oil-cup polishing and the bread which he eats for breakfast, yet the bread is in part the direct result of the polishing of the cup. The man is paid in the medium of exchange, money, which he uses to secure things which he desires to consume, but the thing which he produces he must exchange.

3. Men, therefore, have little pride of workmanship in the products which leave their hands. No one man is responsible for an entire product, and he cannot say "that work is mine" when a finished product leaves the mill or factory.

With these changes, and forming the backbone of large-scale industry, has come the corporation, the legal creation which has assembled capital and labor to convert natural resources into usable forms of wealth.

The corporation means a more direct connection between investors and the enterprise in which they are investing. Men are not required to put all their money into one enterprise, but many scatter it over several. Large sums of capital can be secured by taking a small amount from many persons. The failure of a corporate enterprise is not disastrous to any one person, owing to the diffusion of responsibility. Through the controlling interest in stock, or through the control of the board of directors, a few persons can dictate the policy of a great number of enterprises. The corporation is a thing of vast possibilities. It possesses vast opportunities — both good and evil. The corporation

may be made as dangerous under bad conditions as it is advantageous under good ones.

With the government taking a greater and greater part in the control of natural resources, with the division of labor, with specialization in industry and the introduction of labor-saving machinery, and with the growth of a system of corporations wisely controlled, the business organization of the country tends constantly toward the production of an increasing amount of wealth at a decreasing cost in human energy and pain.

TOPICS FOR CLASS DISCUSSION

1. Outline the development of business organization up to the present time.
2. Has the growth in business organization led or followed the growth in population?
3. What is the outlook for the individual in the modern industrial world?
4. Why has the corporation played such a leading part in modern industrial development?
5. Name some of the tendencies in the organization of natural resources.
6. What changes are being made in the organization of labor?
7. Why is the organization of capital of such importance in business organization?
8. Name some indications of increasing government activity in business.
9. Point out the line that this government activity will probably take.
10. What attitude should the average man in the community take toward business organization?
11. What are the economic effects on the community of efficient business organization?

BOOK VI

CHAPTER XXXII

RAILROADS AS A PUBLIC UTILITY

THE importance of transportation as a factor in production cannot be overemphasized. To say that the steel tracks connecting the Pacific with the Atlantic, the Gulf with the Lakes, are the great arteries of the nation by which its life blood circulates, is no overdrawn figure of speech. The United States as it now exists, with its vast domains, would be an impossibility without its great transportation system.

In discussing production, we defined it as the creation of utilities of which there were four kinds. Transportation has a distinct relation to that kind which we designate "place utility." Commerce consists in taking goods from where they are not needed, and have little utility, to where they are needed and so have greater utility. This is as much production as the making of an ax, a machine, or a suit of clothes. Each of these four acts leads to the creation of utilities. Each adds to the sum of human enjoyment.

In the creation of "place utilities" the railroad is now of first importance. Its efficiency as an agent of transportation was early recognized, and it was not long before it had largely supplanted the wagon roads, rivers, and canals, as means of transportation. It was during the fourth decade of the nineteenth century that the use of steam brought about the wonderful transition from the old type of conveyance. The success and progress of railroad building was almost immediate. Because of its apparent great advantages the railroad was soon destined to supplant all earlier means of transportation.

Chief among its advantages is its rapidity. It has brought California and Pennsylvania as close together as were Pennsylvania and New England formerly. Then comes the question of economy. The railroads can handle freight so economically that the products of the Far West, though of great bulk, compete successfully in the far distant markets of Europe. It has liberated man from his dependence on his home supply of goods. It has made possible in this country our great territorial division of labor which has meant so much in the present industrial position of America. Massachusetts can devote her energy to manufacturing, knowing that wheat raised in distant Dakota and milled in Minneapolis is ever ready to feed her. The South can spend her energies in raising the world's largest single crop of cotton, knowing that her needs along other lines will not be neglected. All this has been possible because of the wonderful growth of communication. We now have a steady, quick, and economical exchange of commodities for the common benefit of all.

The rapid growth of railroad mileage in the United States has been phenomenal. In 1830 there were but twenty-three miles; in 1860 the amount of mileage had reached over thirty thousand miles; by 1880 over ninety-three thousand miles; and by 1900 over one hundred and ninety-three thousand miles. This growth in railway facilities is without parallel in the economic history of any people. That the mileage has increased considerably since the last census is obvious to all, so that to say that two fifths of the railway mileage of the work is in the United States and that the total mileage of the United States exceeds that of all Europe by 10 per cent or more, are conservative statements.

Along with this increase in track mileage there has been a concentration of railway control hardly less marked than the actual increase of mileage and equally as full of significance. Two hundred and ten independent roads, each with a president, in 1883, had been consolidated into fifty or less in 1907.

The movement toward consolidation has been so rapid that the day when four or five men can meet around a table and control all the important track mileage of the country is not an idle speculation. At present 60 per cent of the mileage of the United States is under the control of five interests.

The significance of this concentration of control becomes apparent as soon as one considers the nature of the railroad business. Two points must be clear before one can intelligently discuss the problems arising out of this concentration. One must see clearly, first, that the railroad is by nature of its organization a monopoly, and second, that selling transportation is not analogous to selling ordinary commodities. Let us look into these two statements in greater detail. Why is the railroad a monopoly? Primarily because it is a business of diminishing expense. That means that every railway line requires a certain amount of capital to be invested regardless of the volume of its traffic. It must have a roadbed, rails, tracks, terminal facilities, whether it has one locomotive or a hundred on its line. After this initial outlay for roadbed, terminal facilities, and the like, each train added to the service of the railroad is run at a diminishing expense. If fifty trains use the same road instead of twenty-five, the total expense per train is less, and if seventy-five were run, the pro rata expense would be further reduced. Moreover, the law of diminishing expense operates in regard to each individual train. Whether a freight train is composed of ten or twelve cars, an engine, coal car, and caboose are necessary expenses. Each freight car that is added to the train, of course up to a reasonable limit, is added at a diminishing expense.

There is large initial expense of putting a railroad through any section of a country. It is, therefore, a great economic waste to have two lines duplicating work which can be handled by one. From a social point of view such an expenditure of capital is uneconomical.

The monopoly principle which permeates all railroading

asserts itself time and again in spite of legal regulation to the contrary. The law declares that railroads shall offer their services to all on equal terms. Because of the law of diminishing expenses, the temptation is ever present with the traffic manager to accept extra business at a lower rate. His business instinct tells him that he can do it and still make money. This conflict between railroad profits on one hand, and public interest on the other, leads to violation of the principle of equal rates for equal service to all. The ultimate outcome of the monopoly nature of railroading has been the control of one territory by one railroad system. The economic waste existing under a system of forced competition has always led to the recognition of the fact that railroads are by nature monopolies of organization.

Let us now consider the second point, explaining why the railroad business is different from any ordinary one of private enterprise. As one comes to see this, he must admit the right of the public to a voice in railroad affairs.

The life of a nation or State depends on its avenues of commerce. It is the duty and function of every State to open up through its territories thoroughfares of trade and travel. For this purpose the right of the State to eminent domain has come down to us from time immemorial. The State can acquire the property of the citizens even against their wishes and pay for it out of the State treasury. Making adequate provision for avenues of commerce is clearly a function of the State. When the use of steam made it inevitable that railroads should be the chief avenues of commerce, the State often delegated its right of eminent domain to a railroad company, but in each case the railroad company no more owns the road, — that is, "right of way" — than does the township supervisor own the roads over which he has jurisdiction. The real ownership remains in the State, *i.e.* the people.

Aside from this legal aspect of the question, the supreme necessity for common justice would make it impossible to

accept any other theory than that railroading, unlike many other activities, is peculiarly amenable to the public. The railroad dare not sell its product as it chooses. The railroad corporation is in reality a part of the civil government. Any other theory would place in the hands of a few private citizens almost absolute control of commerce, give them a taxing power over the public, equal, if not in excess of, the taxing power of the government itself, and allow a group of individuals, through this power, the right to say which sections of the country shall prosper and which shall not, which individuals shall be allowed to amass fortunes and which shall be doomed to poverty. This will be made more apparent when we come to discuss the problems arising out of the misuse of the railroad power.

There are two practical respects besides the theory which differentiate the railroad business from the ordinary business of private citizens. First, the railroads would be an impossibility, did not the State allow it the "right of eminent domain." What right does the State allow the ordinary citizen comparable to it? Second, the railroads from the earliest times have received and depended on State aid in regard to finances.

There are nineteen States in all which have advanced funds of considerable amounts for railroad construction. Some of them contracted debts ranging in the neighborhood of $30,000,000 for the benefit of the railroads.

In addition to this State aid, the national government has been a large contributor. Much of this aid has consisted of grants of land from the public domain, which have amounted to somewhere in the neighborhood of 100,000,000 acres of land. So, from the standpoint of the law, the nature of the business, and the degree of government aid received, the railroads are clearly marked from the ordinary economic activities of the people. They are quasi-public corporations. The State, when it grants a charter to the railroad company, expects that it will reimburse itself for its services by charging

tolls of all those who make use of its services. The State, however, imposes on the railroad in the collection of its tolls at least two broad restrictions. First, rates must be reasonable; and second, the railroads shall be open to all persons on equal terms. In other words, discriminations of all kinds are prohibited.

The question of discriminations is one of the most serious evils connected with the railroads. They may be of three kinds: first, discriminations between persons; second, between places; and third, between commodities. The most serious discriminations are between persons. This happens when one shipper gets some special privilege not afforded to his competitor. It may be in the form of secretly low rates, direct rebates, or securing all cars necessary, while the competitor is denied them on one pretext or another. Whatever the plan, it is a form of special privilege and inevitably results in the failure of the man discriminated against. Competition is so keen in business to-day that no man can long compete against one who can get his goods to market more cheaply. To make the situation more grave, the man discriminated against is usually the small shipper, the one, if any, who can least afford to pay the highest rate. As the Interstate Commerce Commission has said in one of its reports, "There is probably no one thing to-day which does so much to force out the small operator, and build up trusts and monopolies, as discrimination in freight rates." It is a matter of general knowledge that the Standard Oil Company was enabled through discrimination to gain such a start over all its rivals as to leave it in virtual control of the whole field. This in turn reacted on the railroads, for the Standard Oil Company, as the only important shipper in its line, could then dictate its own rates by threatening to withdraw its patronage from one railroad and placing it with another.

The persistence of the practice of discrimination in its various forms, in spite of both common and statute law, is

due to the fact that railroading is, as has already been pointed out, a business of diminishing expense. This makes ever present an incentive on the part of the traffic manager to offer to take additional freight or freight in large quantities at lower figures than the published rates. He feels that he must get traffic. His road represents the locking up of vast sums of capital. The more traffic, the better for his road Each added train or freight car can be run at a lower proportionate cost. From a business standpoint, there is no reason why he should not sell his commodity — transportation — at a lower rate in large quantities than in small. It really costs him less to render the service. Public welfare, crystallized into law, says, however, that he shall not.

A second form of discrimination is that existing between places. This is hardly less serious than the personal form just discussed. It is more far-reaching in its effects, as it may involve whole cities, and even States or groups of States. Two districts may be producers of similar articles of commerce which are sold in competition in the one market. A rate discriminating in favor of the one district means that it shall prosper and gain control of the market in question. Its merchants will grow wealthy while those of its rival languish and their business dwindles. This has often happened. This place discrimination may have several causes. Railroads may have particular interest in the development of certain localities due to real estate holdings of their own. Again, it may arise from favoritism shown to a group of interests in one section of the country as opposed to another.

The most common form of this place discrimination arises out of the presence or absence of other competition at the two points competing for a common market. There are cases on record where the freight charge on a tub of butter brought 165 miles to New York was 75 cents, as contrasted with a charge of 30 cents when brought 1,000 miles from Elgin, Illinois. This is but an illustration of

many similar cases. This power of laying a tax at will on one community as opposed to another, is one of great moment to the welfare of the people. To protect local shippers and to prohibit the practice of charging more for a short than for a long haul over the same line, Congress inserted in the Interstate Commerce Act of 1887 a special clause popularly known as the "Long and Short Haul Clause." This forbade charging more for a short haul than for a long haul over the same line and under similar circumstances.

This clause has long been a dead letter, as the courts have held that whenever there is competition at one point and not at the other, the "circumstances" were not "similar" and therefore that this long and short haul clause does not apply. The courts have thus prevented it from curing the largest part of the evil that Congress designed it to reach.

The last type of discrimination is that in connection with commodities. This often vitally affects the location of industries and also their ability to do an export business. It is not feasible to have a separate rate for each commodity that the railroad handles. To obviate this difficulty, commodities are grouped together into separate freight classifications with corresponding freight charges. A reclassification of any commodity may seriously affect the business interested, by increasing the rate. This device has the same effect as keeping the old classification and raising the rates. Discrimination in commodities may have some far-reaching effects. Ultimately it may even cause a change of location of an industry. For example, the rates on flour coming from Minneapolis may be made so high in proportion to the rates on wheat coming from the West, that the Minneapolis millers cannot send their flour East, for it can no longer compete with the wheat shipped East at disproportionately low rates and then milled in the East.

As a rule, the traffic manager will arrange his classifications to get all that "the traffic will bear," but this allows a certain margin in which his discretion enables him to favor

one locality or firm at the expense of others. Having seen the essential nature of the railroad business to be that of a quasi-public corporation, and having seen the grave evils that accompany a departure from this theory, it only remains for us to present the story of railroad control as exercised by the public in this country.

TOPICS FOR CLASS DISCUSSION

1. Is the railroad productive? Why?
2. Why is transportation a greater problem in the United States than in Europe?
3. How would the sudden destruction of all railroads affect the life of the people?
4. If there were no railroads, could there be any "trusts"?
5. Why are discriminations granted by the railroads?
6. If any one rides on a pass, who pays for that ride?

CHAPTER XXXIII

RAILROAD CONTROL

When one considers the direct relation that exists between the proper management of the railroads and the general prosperity of the nation, it is not surprising that steps should have been early taken by the government for the purpose of insuring to its citizens such proper management.

Since the railroads are quasi-public, holding their charters and exercising the right of eminent domain under State sanction, they must act on the broad principle of equality for all before the law. The railroads must be open to every one on equal terms. There must be no difference, whether one is rich or poor, high or low, a big or a small shipper.

Since the railroad is rendering a service to the public, it is entitled to a compensation. But being a common carrier, and at the same time a monopoly, by the nature of its organization, the law allows the railroad to reimburse itself only within certain limits by charging toll of all those who use the common carrier. The limitation which the State thus lays down in the collection of tolls, is that they must be reasonable. The railroad is entitled to a fair return on its capital and a fair rate of profits. This the government recognizes, but not that it is entitled to any more. Unreasonably high rates involve a taxing power which the government has never intended granting to the railroads. These two fundamental principles — that rates must neither be discriminatory nor unreasonable — lie back of all laws passed to control the railroads. They form the basis of the legal relation of the State

to its common carriers. In spite of this fact, numerous practices of the railroads have involved, and to a degree still involve, a violation of both principles.

About 1870 the cry of extortionate rates became the common cry of shippers all over the country, but especially in the great agricultural states of the Middle West. The charge of discriminatory rates was made in the oil regions of Ohio and Pennsylvania. State after State passed stringent laws in an endeavor to correct these growing abuses. But because of the magnitude of the problem and also because of the lack of uniformity of action, the States were able to do little that was really effective. The agitation did, however, call the attention of the public in a forcible manner to the nature of the evils involved. An aroused public opinion soon paved the way for federal action which was made possible by the clause in the United States Constitution which gives Congress power to regulate interstate commerce. The State failed because most of the railroads were interstate and its jurisdiction was intrastate.

As a final outcome, Congress appointed a commission to inquire into the cause and nature of the railroad abuses. Its report to Congress led to the passage of the Interstate Commerce Act of 1887, which was only possible after a bitter fight with the railroads. This was the first step taken to curb the growing power of the railroads that was even halfway effective. Experience soon proved the original act of 1887 weak in parts. As a result, several subsequent acts, framed in the light of the experience gleaned by the Interstate Commerce Commission in its ceaseless endeavors to secure justice in railroad affairs, have been passed. Although the present law or combination of laws governing railroads is not perfect, it has wrought a marked improvement over conditions existing prior to 1887.

The original act of 1887 applies to interstate passenger and freight traffic carried by railroad or railroad and water. This, it should be noted, eliminates, first of all, intrastate business;

second, interstate business carried on by all water route; and third, the express business.

The provision of this first act covers in the main five important points. First, unreasonable and extortionate rates were prohibited. This provision was based on the old English common law which had long made extortionate charges for transportation illegal. Second, discriminations between persons, places, and commodities were prohibited. Railroad officials making such discriminations were liable to fine and imprisonment. Third, all fares and rates were required to be printed and made public and also filed with the Commission. A ten days' notice was required for advancing rates and a three days' notice for reducing them. Fourth, it is unlawful for any common carrier subject to the provisions of this act to charge or receive any greater compensation in the aggregate for the transportation of passengers or of like kinds of property, under substantially similar circumstances and conditions, for a shorter than for a longer distance over the same line, in the same direction, the shorter being included within the longer distance. In case this should work a hardship to both local shipper and the carrier, the Commission was empowered to suspend this "long and short haul clause," as it is popularly known, whenever it deemed fit. The subsequent interpretation of the courts that wherever there is competition, either by water or rail, at certain points and not at others, "substantially similar circumstances and conditions" do not prevail, has practically made this section of the law a dead letter and there are many cases now in which goods can be shipped a longer distance for a less rate than a shorter, merely because at one point the railroad must compete with transportation, at the second point, with none. Fifth, all pooling contracts between railroads were prohibited.

To see that the new law was executed an Interstate Commerce Commission of five members was established. This number has since been increased to seven. The com-

missioners are appointed by the President of the United States with the consent of the Senate. They are required by law to devote all their time and energies to the duties of their office and serve for a term of six years at a salary of $7500.

This Commission was given power to make investigations, to go over the books and papers of a carrier, and to compel testimony. Any investigation may be started upon the complaint of a shipper seeking redress for damages or at the will of the Commission itself. If the Commission decides that the law is being violated, it may order the carrier to stop its illegal practices and award damages to those who have suffered because of the said violations.

These orders of the Commission are not binding, should the carrier against whom they are made care to disregard them. The only course then open to the Commission is to appeal to the United States Circuit Court to enforce the order of the Commission. Many times these United States Courts have failed to sustain the Commission because of the policy of many railroads in the past of withholding important evidence when being investigated by the Commission. This new evidence so withheld often put the situation in a new light, and the Court would render a decision contrary to that of the Commission. The purpose was clearly a desire to undermine the authority of the Commission.

The original law has been criticised for trying to stop discriminations and yet insisting that competition shall continue by forbidding pooling. It has now become generally recognized that the cause lying back of all forms of discrimination is competition, and that it was unwise to prohibit "pooling," the only possible escape from competition except that of combination. Furthermore, the Sherman Anti-Trust Law of 1890 has been interpreted so as to make not only pooling illegal but also traffic associations. Many experts of the railway problem feel that legal restrictions of this nature are most unwise.

The original act has further been criticised in giving the Commission the power of declaring a particular rate illegal, but in not granting it the power to say what the rate should be in the future.

The next important piece of railroad legislation was the Elkins Law of 1903. This has appreciably strengthened the government control of railroads. It makes the corporation, as well as the agent or officer, liable to prosecution for violation of the law. Deviating from the published and lawful rates and the acceptance as well as offer of a rebate or discrimination is now a misdemeanor punishable by fine. The penalty for deviating from the lawful rate is a fine of not less than $1,000 or more than $20,000 for each offense. The Elkins Law, moreover, empowers the Interstate Commerce Commission to petition the United States Circuit Courts for writs of injunction whenever it believes that discriminations are being practiced. The law makes it "the duty of the several district attorneys of the United States, whenever the Attorney General shall direct, either of his own motion or upon the request of the Interstate Commerce Commission, to institute and prosecute the proceedings provided for by this act." And, finally, the act aims to hasten the wheels of justice. An appeal from the final decree of the Circuit Court in all cases brought before it for the enforcement of the law "will lie only to the Supreme Court and must be taken within sixty days from the entry thereof."

The last step in railroad legislation is the Act of 1906. By this last step the Commission has gained in administrative power. It may now fix a maximum rate, while formerly it could only declare a certain rate unreasonable and there let it rest. Furthermore, its authority has been extended to all express, sleeping-car, and pipe-line companies doing an interstate business, and in addition it now may compel a uniform system of accounting for all common carriers. This makes possible more efficient work by the Commission and in addition may furnish data for further legislation in accord-

ance with the policy of publicity which seems to be gaining adherents on all sides. It is interesting to note the opinion in regard to the Act of 1906 of such an expert in railroad affairs as Professor Johnson. He says in a recent writing: —

"The federal act of 1887, although amended in detail from time to time, was not greatly changed until 1906, when the so-called Hepburn Bill of the 20th of June was passed. That law, expressing the mature judgment of the American people, who had given serious thought to the question for at least a decade, established in statutory form two fundamental principles. There were many minor provisions; but the two really important ones were those empowering the Interstate Commerce Commission to require uniform accounting and to adjust railroad charges.

"The Interstate Commission has prescribed uniform accounting, and the books of the railroad companies are now as open to the government as are the books of banking companies. The business of railroading has in a large measure ceased to be private, and has become open and public. This, in my judgment, is the most important provision in the Hepburn Act."

TOPICS FOR CLASS DISCUSSION

1. Why does the question of the control of the railroads in the interest of the public present especial difficulties in America?
2. Has the government built and operated railroads successfully in any country?
3. Do you think the United States government should own the railroads in this country now?
4. Who is responsible for the present large number of railroad accidents, the railroad, the public, or the employee?

CHAPTER XXXIV

THE RISE OF MODERN INDUSTRY

In the study of the development of modern industry in this country four distinct stages become apparent. These we shall designate as the stages of home industry, of small-scale production, of large-scale production, and of combination.

In thus making four divisions the writer does not wish to give the impression that any stage completely supersedes that which goes before. It merely makes a modification in the organization of industry, giving it a new characteristic. To-day in many tenement houses of New York one may still find cases of home industry. Though this present age of industry is characterized by combination (monopoly), small and large scale production are to be found on every hand. It is important, however, that one separate in his mind the various stages, because each stage has causes of its own and gives rise to distinct problems of its own. Large-scale production, for example, may be a public benefaction, while combination may be a social curse. Unless one clearly differentiates between these two stages of industry, it is impossible to do any clear thinking in regard to the problems to which they give rise.

Seventy-five years ago in this country practically all articles of consumption were made by a tool-using household working in their homes either in the towns or on the farm. A family would specialize in one line of goods, as cloth, shoes, candles, etc., and would exchange with its neighbors for the

other necessities of life. Often a farm in those early days was practically an independent economic unit, making nearly everything consumed on the farm, from its clothes of homespun to its shoes, and of course all food, with the possible exception of salt.

The early factories grew out of these household industries. Naturally they were small. They supplied but a local market. Most of them were along the "fall line," where water power was abundant, and where extensive deposits of coal offered fuel for steam power at low cost. The period right on up through the Civil War and down to the '70's was characterized by small-scale production.

The revival of industry following the long depression of 1873–1879 began the modern development of large-scale production. The following table, from Seligman's *Principles of Economics*, illustrates the great increase in large-scale production since 1870: —

Industries	Number of Establishments		Capital		Average per Establishment			
					Number of Workmen		Value of Products	
	1870	1900	1780	1900	1870	1900	1870	1900
Iron and steel	726	668	$161,523	$858,371	103	133	$274,878	$1,203,545
Agricultural implements	2076	715	16,780	221,751	12	65	25,080	141,549
Carpets and rugs	215	133	58,329	335,205	56	214	101,217	362,349
Woolen goods	2891	1035	34,184	120,180	28	67	53,755	114,425
Leather	7569	1306	8,076	131,214	5	40	20,774	156,231

From the above table it will be seen at a glance that since 1870 the number of establishments in many representative industries has actually diminished, while the average capital invested, the number of employees, and the value of the product per unit have steadily risen.

If we had consulted a similar table based on census returns from 1850 to 1900 inclusive, and covering all manufacturing plants instead of only a selected group, we should have found

that, while the number of establishments and of wage earners increased fivefold or less during the period, the value of products increased thirteen fold and the amount of capital nineteen fold.

Whenever such a marked change occurs in the organization of industry, as noted above, it is but natural to inquire into the basis of such a transformation. Among the most important bases for the growth of large-scale production has been the vastness of the territory and the unparalleled wealth of natural resources of the United States. Nature has accustomed the American to big things. A second basis has lain in the ingenuity, inventiveness, and energy of American labor force. The use to which Americans put huge machines and the readiness with which they discard them when a better one is to be found have revolutionized industry in this country. A third basis lies in the steadily expanding home market. The growth of railroads connecting the Gulf with the Lakes and the Pacific with the Atlantic no longer compels the American manufacturer to depend on a local market. And, furthermore, whatever one's view on the tariff question, there is no doubt in the mind of a student of the economic history of this country that from the Civil War until the present date tariff legislation has aided the growth of large-scale manufacturing in this country by shutting out foreign competition and reserving the home market for home producers.

As the advantages of large-scale production have been discussed in an earlier chapter, it will merely be necessary to call attention to them in passing. The operation of a business on a large scale permits the use of expensive and complicated machinery, its constant employment, the minute division of labor, the employment of more skilled management, the utilization of by-products, and the economical purchase of raw material and marketing of the finished product. In addition, large-scale production permits the integration of industry, whereby all processes of industry,

from the very crudest to the finished state, are carried on under one management. This was the striking characteristic of the Carnegie Steel Company before it merged into the United States Steel Corporation, when it owned, besides its mills and furnaces, its ore and fuel supply, its transportation lines, lake steamers, and docks. Similar illustrations of the integration of industry are found to-day in the Cambria Steel Company and in the firm of Jones and Laughlin of Pittsburg, two independent concerns which never entered the steel trust. The advantages of the integration of industry are apparent to all. It affords great opportunity to reduce the cost of superintendence, to control the quality of raw materials in the various stages of the industry, and, above all, to combine profits.

The fourth stage of industry, viz. that of combination, really dates from 1897, though there were some individual instances at a much earlier date. During the years of 1898 to 1900 there was a veritable stampede among managers of business of all kinds to enter into combinations. It is recorded that one hundred and forty-nine large combinations, with a capitalization of over $3,000,000,000, were formed during these years. That first in size of all combinations, the United States Steel Corporation, was not affected until 1901. Its importance is such that it will be separately treated in a subsequent chapter.

Again, it is natural to ask, what has been the cause lying back of this last change in the organization of industry? What similarity, if there is any, exists between the antecedents of this modification and of that of large-scale production? Are they both illustrations of an evolution aiming at greater and greater economy of production; or is combination not based on any principle of the economy, but merely on a desire to secure monopoly control? A consideration of this important distinction will now receive attention.

If one may generalize from the motives which prompted the promotion of the United States Steel Corporation, he

would have to declare that the desire to control prices is the chief incentive to combination. As one of the presidents of a large plant testified before the Industrial Commission, his company was formed "for the purpose of getting together and doing away with foolishness in making prices." If we may inquire into the inducements held out by promoters to those whom they would seek for their combine, we see that prominent among them is prospect of controlling the market and exacting higher prices. Often prospectuses issued to financiers and investors make the same claim. Dr. Meade, in his work on *Trust Finance*, reaches practically the same conclusion. He believes that "the control of prices, the control of labor, and the control of the middleman were the three main inducements to the formation of the trust, but the greatest of these inducements was the control of prices." There seems to be little doubt but that there has not been a single industrial combination which was not formed with the desire to increase its monopoly power. Just to what extent it has been able to carry out its purpose, we shall see in a subsequent chapter dealing with The Public and Monopoly.

Just as the purpose of combination is monopoly, so the basis on which most of the large combinations rest is monopoly. Dr. J. Russell Smith, in his recent work, *The Story of Iron and Steel*, states: "The control of the steel industry lies in the control of the raw materials," and again, "Control of the steel trade lies in the control of the ore." Professor Bullock, after making an exhaustive analysis of the explanation of combination, comes to the conclusion that "control over limited supplies of natural resources is the strength of some combinations; railway discriminations, patent rights, and the shelter of protective duties have given material comfort and support to others." Mr. Havemeyer's statement before the Industrial Commission was that the tariff is "the mother of all trusts." It may be too sweeping, but his contention that the tariff causes over-investment in certain industries, thus producing

a period of depression that results in consolidation, seems to carry weight.

In trying to explain the movement toward the combination of industry which swept over the country in the years 1898–1900, one must not overlook the influence of the promoter.

Some of the earlier combinations resulted from the spontaneous efforts of the manufacturers themselves, but most of the combinations formed during the trust stampede were the result of professional promoters. Many of these men had an interest in getting stocks to sell. Their interest lay wholly in the Wall Street end of the proposition. Railroads had furnished the bulk of the new securities, but in 1898 large amounts of low-priced railroad stocks were no longer available. Railroad building became less urgent after the pioneer lines had opened up the country. As a result, the former outlet for investment was largely closed. The promoter saw this. His opportunity lay in putting before the investing public industrial stocks. By 1899 confidence was once more restored. People became hopeful, and the professional financier saw that the time to strike is when the iron is hot. Never before had he had a more promising opportunity to sell stocks. That this led to much reckless finance is not hard to imagine.

The economies of large-scale production are sufficient to explain the transition from small-scale to large-scale. The change from large-scale independent production to combination rests largely, as we have just seen, on a desire to control prices. But this was not the sole advantage to be gained according to the promoters. There were certain "economies of combination" which would ultimately make the trust the form of industry most fitted to survive. The trust would have all the "economies of large-scale production" and, in addition, the "economies of combination." Chief among these are saving in cross freight, reduced expenses for advertising and traveling salesmen, and ability to secure the most able men as managers. Economists differ as to the

real value of these so-called "economies of combination." Professor Seligman believes that the trust is built upon a firm economic foundation. He states that "at bottom combination is due to the economy of production that comes from concentrated capital. The immense profits often secured by the promoters may indeed be responsible for premature or dishonest consolidations, but such mere speculative projects are obviously short-lived. Unless there are some real advantages in the combination it cannot endure; the mere fact of its continued and prosperous existence justifies its formation." Other authorities feel that "these advantages are of minor consequence." Such is the opinion of Professor Meade, who, as already stated, believes the three main advantages of combination lie in its control of prices, labor, and the middleman, but chiefly in the control of prices.

Professor Bullock believes that these so-called economies of combination have been greatly exaggerated. He feels that if the large combinations are inherently a better form of business organization than large-scale independent concerns, it is odd "that the trusts find competition so troublesome, and consider it 'good business' to resort to the most disagreeable means of driving 'interlopers' out of the field."

The saving in cross freights, he maintains, is not nearly so large as represented. He maintains that since most of the former independent establishments were producing chiefly for their natural local constituencies, the trust can save little in cross freights. He bases his conclusions on data recently published by the Department of Labor, which showed that out of forty-one combinations reporting twenty-seven failed to answer the question of cross-freight savings, nine claimed a saving from this source, and five stated that there was no gain.

The saving in advertising he considers a disadvantage. Advertising is not a waste, but a productive expense, and the trust which wishes to push its goods must advertise. Advertising creates a demand for goods. It arouses the desire

to purchase. To stop advertising is to cut down on consumption whether there are any competitors or not. In this same position stands the salesman. It is the drummer who is largely responsible for the sale of commodities outside of the absolutely necessary ones. Economy in salesmen and advertising is bad economy.

In regard to the last "economy of combination" that we have mentioned, viz. ability to secure the ablest management possible, Professor Bullock feels that as much efficiency could be obtained in a concern like the Carnegie Steel Company as can be obtained by the United States Steel Corporation. He says: —

"It must be remembered that the able leaders now at the head of the successful trusts were developed out of a field which afforded the widest opportunity for creative ability and independent initiative. These are the supreme qualities requisite for great industrial leadership; and they are not likely to be fostered by a régime, which, if the believers in monopoly are to be taken at their word, closes each important branch of manufactures to new enterprise, and renders hopeless all competition with a single consolidated company. Will successive generations of bureau chiefs or heads of departments in long-established corporations be able to continue the race of masterful leaders which freedom in originating and organizing independent industries has given us in the present age?"

In closing this general discussion of the four historic stages through which American industry has passed, it is interesting to speculate on what will be the fifth stage. Socialists predict that the present large combinations are but the forerunners of one large combination uniting all, viz. state ownership and operation of the tools of production. They maintain that the large trusts have shown to the American people the practicability of coöperation. From the impersonal corporation coöperation of to-day they feel it is but a small step to the impersonal government coöperation of socialism.

To others, the future form of industry lies in the outcome of the contest which is now going on between large combinations which seek monopoly control, and independent rival concerns backed up by a public increasingly hostile to monopoly and demanding the benefits of competition. The issue is clearly drawn between the large-scale production, on the one hand, and combination (monopoly), on the other. One desires to eliminate the "evils of competition," and the other eliminates the "evils of monopoly." Many who take a favorable view of the trusts state that "the competitive system of industry is fast passing away," and that all lines of business "are, or soon are to be, monopolized," and that "monopolies of every sort are an inevitable result from certain conditions of modern civilization."

To others, who see in competition a stimulus to greater achievements, who believe that monopoly "would not need to be forever pulling out its machines and putting in better," such phrases are viewed as either misstatements of facts or bad prophecies. They feel that competition has never been allowed to work under an enlightened public opinion on the subject. They feel that many of the so-called evils of competition have been due to bad legislation. Because they advocate competition does not mean that it should be applied in those fields, as railway, gas, or water industry, wherein public opinion knows that it would be wasteful. These are monopolies by nature of their organization.

Professor Bullock, in a recent article on *Trust Literature Survey and Criticism*, points out the fact, that though the present stage of business has been characterized by combination, it is by no means certain that this is an ultimate form of industry. He says: "Yet, with all the strength that the movement towards combination has acquired, competition has always vexed the would-be monopolist, and is especially active at the present moment. As this is being written, one trust is already confronted by fourteen independent companies, while another rival enterprise with a capital of

$1,000,000 is in process of formation. Another combination owning 290 mills was, in October, confronted by independent companies operating 74 mills; and in December a new concern with a capital of $5,000,000 was formed. Almost every day brings word of the appearance of new competitors for various trusts, and the *New York Journal of Commerce* says that the revival of competition may be considered a general movement."

The testimony of Dr. Smith in *The Story of Iron and Steel* bears much the same testimony: —

"Despite its efforts at control the [Steel] Trust is not as near monopoly as it was the day it began.

"The four full years of its operation, 1902–1905 inclusive, did not indicate any increased share of production. The bulletin of the American Iron and Steel Association shows that during these four years there was an almost universal decline in the percentages of iron and steel products made by the Trust, the only exception to this rule being in coke and wire nails, which increased slightly. It should be distinctly noted that these decreases in percentages of production, ranging from 0.1 per cent on miscellaneous finished forms to 11.8 per cent on Bessemer rails, are not decreases of actual output. There have been large increases in output all along the line, but the independents have increased at a more rapid rate than the Steel Corporation."

It would thus seem that there are limits set to the growth of combination. The great department stores may have greatly decreased the number of small retailers, but they have by no means eliminated them. Their convenience, often due to location, insures their permanence. Furthermore, there are certain fields of industry in which gigantic combinations seem to fail; notable among them are the woolen trades, shoe factories, and cotton and silk mills.

Furthermore, some feel that the "economic wastes" of competition is a cheap price to pay for its many advantages. This belief may make itself felt by legislation which will

not seek to prohibit combination, but to regulate it, and thereby put a limit to combination. Just what form the fifth stage (if there be a fifth) is to take it is impossible to state. Until further data is available for the economist no generalizations can be drawn. One thing seems positive, however, and that is, American industry has far from reached its final form. There are indications that a new epoch is already at hand.

TOPICS FOR CLASS DISCUSSION

1. Through what stages has industry evolved?
2. What led to each change?
3. What advantages are there to manufacturers in combination? What to the public?
4. Is advertising of any social service, or is its sole purpose to divert trade from one business concern to another?
5. Does the tendency toward combination indicate an irresistible movement to socialism, or to government management of all production?
6. What was the "Industrial Revolution"?

CHAPTER XXXV

ENTREPRENEUR, PARTNERSHIP, CORPORATION, AND TRUST

To-day business in general is organized under four forms, the single business man, usually described in economics as the *entrepreneur* or enterpriser, the partnership, the corporation, and the trust form. Though the four forms all exist to-day, equal importance does not attach to them nor has the relative importance of the four always been the same at each epoch of our industrial development.

First historically, and least in complex form, is the single *entrepreneur*. He is represented by the average business man in the community who launches out for himself. So long as a man is in business for himself, he is an *entrepreneur*, regardless of the size of the business. The man with a peanut stand, the corner grocer or druggist, the owner of a factory or mill, are each all *entrepreneurs* as the term is used in economics. An *entrepreneur* is one who runs the business, assumes all its risks, receives all its profits, and bears all its losses.

Business men, finding their field of activities limited by lack of capital, or of time to attend to all the details of the business, early devised a second plan for carrying on business, known as the partnership. Under this form of organization the single *entrepreneur* is replaced by two, three, or four men who jointly run the business and share in its gains and losses. As has been mentioned, the advantage of such a plan consists in the larger scale on which the business can be run because of increased capital. Again, it gives each partner an opportunity to devote his undivided time to certain details of the business, thus insuring more efficient work as a whole. Often the greatest disadvantage of this form of business is the sweep-

ing liability which it imposes on each partner entering into this business relationship. Each partner is responsible up to the value of all his personal possessions for any debt contracted by any of the other partners, provided of course such debt is contracted in pursuance of the business. A further disadvantage of the partnership is the limited amount of capital that it can control. Though the amount is usually considerably greater than that which a single business man can command, it often falls so far short of the needs of modern times that the third form of business organization — the corporation — was devised.

A corporation may be defined as "an association of individuals known as stockholders, who are empowered by legal charter to elect annually a board of directors and through it to act as one person in the conduct of the specified business." The corporation is a legal entity existing only in the eyes of the law. It is intangible, and yet has many of the attributes of a natural person. It has power to sue and to be sued, to hold, purchase, and convey real and personal estates, to appoint officers and agents, to conduct its business, but above all, the corporation has the power "to have succession, by its corporate name, for the period limited in its charter, or certificate of incorporation, and when no period is limited, *perpetually*. On account of the large way in which industry of to-day is organized this last feature is an absolute essential. Industry has become a permanent institution. With the life of the vast railroad systems and of those industrial concerns which supply the necessities of life, dependence on the natural life of any individual is out of the question. A perpetual existence is the only feasible plan for all business organizations popularly known as public service corporations.

The second great advantage of the corporation after that of its permanence is its ability to amass a large capital. Through a sale of stocks it may raise money from many and widely differing sources. A number of small streams of water may have little power, but united into one stream they

may turn the wheels of the mill, or in the river float the mighty vessels of commerce, and so render service to the community. So with the corporation in raising capital. Through its wide sale of stocks, it may unite many small streams of capital into a mighty river of capital capable of real service to the community. Its ability to raise capital largely depends on the principle known as limited liability. This principle makes the owners of the corporation, the stockholders, liable for the debts of the company only up to an amount equal to the par value of the stock. If the concern fails, the investor can lose no more than his stock, serious as that may be. The only exception to this general rule is in the case of the national Banks, where the liability is double the amount of the par value of the stock subscribed. One advantage is clear, viz. the stockholder is in no danger of losing all his wealth through the bad debts contracted by the corporation.

A third advantage of the corporate form is its flexibility. New plans can be formed and executed by a complete change in the management of the corporation through the simple process of a stockholders' election.

A fourth advantage lies in the ability of a corporation through the greater rewards it can offer to obtain more efficient managers and superintendents. Again, it can command the advice of men who serve in the capacity of directors whose time and attention a single *entrepreneur* or partnership could not obtain because they have no claim on them.

Possibly the greatest advantages of the corporation are those resulting from the economies of large-scale production made possible by the resources of a corporation with its large capital. These advantages of large-scale production may be classified under the following heads: —

(*a*) Division of labor.
(*b*) Expensive equipment.
(*c*) Economy of buying supplies.
(*d*) Economy in use of by-products.
(*e*) Possibility of experimenting.

Much might be said in emphasizing each of the advantages just mentioned, especially that of using by-products. The wonderful use which the Chicago packers have made of all parts of the animals slaughtered, from their horns to their hoofs, is illustrative. The fact of their running several by-product industries, as soap and glue making, explains their ability to compete in all the local markets at home and in many places abroad.

The cotton industry has learned that the once despised cotton seed is an article of commerce valued, not only for its oil, but for the cake that is left after the oil is pressed out, and which makes excellent food for cattle. The wonderful list of coal-tar products, the by-products in gas making, has proven far more valuable in the aggregate than the gas which was originally the only thing sought. In all respects the corporation is the natural response to an economic need. Our vast continent, our great resources, all demand handling on a large scale and in a manner with a certain degree of permanence and stability to it. The corporation more nearly answers this need than either the single *entrepreneur* or partnership form of business can.

Just as, in time, the partnership was superseded by the corporation, a larger business unit which met more nearly the growing needs of the time, so too, in time, in many fields at least, the single corporation has been superseded by a still larger unit of management, the trust. The trust, like the corporation, is the response to a definite economic need, and forms but another step in the evolution of modern industry. The trust may be said to have passed through three forms of organization. The first stage is popularly known as the "pool." This consists of agreements among independent producers in any one line whereby they try to eliminate competition among themselves by either restricting output among themselves or by fixing prices.

The pool is so named because under such an arrangement the receipts of the various concerns are put into a common

fund or pool and the returns divided among them in a proportion formerly agreed upon. The weakness of the pooling system has always proved a growth of mutual jealousy and distrust which ultimately causes competition to break out more fiercely than ever. Furthermore, the agreements on which a pool rests are illegal, and therefore cannot be enforced by the courts.

The second stage of the trust was that in which the various competing corporations turn over their stock to a central board of trustees. This board, holding all the stock of the various constituent companies, can maintain complete harmony among the companies and regulate output and price. This board issues to every one who intrusts his stock with them a trust certificate. This is an evidence of the real ownership of the stock and affords a basis on which to divide the profits of the trust.

The third and last form of the trust is known as the holding company. This plan was devised because the second stage was declared illegal as a "combination in restraint of trade." Under the holding company plan each corporation entering the combination maintains its separate existence. To secure unity of action, a central corporation is formed, empowered to hold stocks of other corporations. The stock of the parent company is then exchanged for the stock of all the various constituent corporations. This places under one central control the voting power on the stock of all combining companies, thus insuring uniformity of action and the maintenance of prices. This third stage resembles very much the second, except that a board of trustees is illegal, and a corporation empowered to hold stock of other companies is not.

TOPICS FOR CLASS DISCUSSION

1. Why have "pools" usually failed?
2. What was the Northern Securities Case?
3. Is the growth of combination in accord with economic law?
4. Can the large factory always outsell the small one? Why?

CHAPTER XXXVI

THE STANDARD OIL COMPANY

THE history of this trust affords an excellent illustration of the widespread movement toward large-scale production and combination which has characterized the development of industry in this country during the past quarter of a century. The Standard Oil Company was the first trust in the field. It has carried the trust idea farther, possibly, than any other concern, and much material is available for a careful study of its formation and growth.

Although 1862 is given as the date of the organization of the Standard Oil Company, to understand its rise and progress one must start at a much earlier date.

Petroleum could hardly be called an article of commerce before 1859, although known before that date. It was often a troublesome by-product found floating on the water pumped from salt wells. It was considered as having medicinal properties. Beyond this it was little valued. A few chemists recognized its great possibilities for illumination if only it could be obtained in sufficient quantities. This was not realized until 1859, when the first oil well was sunk at Titusville, Pennsylvania. In a few years the oil regions of Pennsylvania became famous the world over. From many wells in the district oil flowed at the rate of 2000, 3000, and 4000 barrels a day. The price of oil fell from twenty dollars a barrel in January of 1860 to ten cents a barrel by the close of the following year.

This sudden birth of a new industry brought many new problems with it, such as storing, transporting, and marketing the new product. Barrels were first used for storage,

then reservoirs excavated in the earth and lined with logs and cement. Next huge wooden tanks were used, which in turn were superseded by receptacles of iron holding thousands of barrels.

At first, there was no way to reach the outside world from the inaccessible oil regions of western Pennsylvania but by team. Water and rail transportation were both at a distance from the oil wells. To make the connections a constant stream of teams plied between the oil region and the outside world. Many of the oil caravans numbered a hundred wagons or more. Often as much as three dollars or more were paid to haul a barrel a distance of five or ten miles. This slow and expensive means of transportation could not last long. It was inevitable that the teamster and boat should be replaced by the railroad and the pipe line. Moreover the Allegheny River traffic had grown to huge proportions. At its height no less than 1000 boats, 30 steamers, and about 4000 men were engaged in this means of transportation alone.

By 1865 three railroad lines within teaming distance of the oil regions had pushed branches right into the heart of the district. The day of the teamster was almost over. As early as 1863 three short pipe lines had been put into operation. They ran for several miles, but were not wholly satisfactory. By 1864 a successful pipe was installed. It was a two-inch pipe with three relays of pumps. By this new means eighty barrels of oil an hour could be carried. This advance was soon destined to work a complete revolution in the oil business. Meanwhile the oil field had extended from the valley of Oil Creek, the place of original discovery, down the Allegheny River for fifty miles until it probably covered 2000 square miles. The discovery of oil gave this whole district a most phenomenal growth.

The story of the sudden rise of the town of Pithole is typical of the rapid development of the whole oil region. Pithole was a wilderness. In less than ten months the field was

producing over 10,000 barrels a day. In six weeks after the first oil well was struck, Pithole had 6000 inhabitants. In six months' time after the first well, the post-office of Pithole was receiving 10,000 letters a day, and was the third city in size in the State. Many a man found a fountain of wealth beneath his field. Many of the wells required no pumping, but gushed forth two, three, and four thousand barrels of oil a day.

Because of the difficulty at the start of getting the large and expensive apparatus necessary for refining crude oil to the source of the supply of raw materials, the bulk of the crude oil had been driven to the nearest manufacturing cities, — Erie, Pittsburg, and Cleveland. Some was even carried farther to the seaboard, — Boston, New York, Philadelphia, and Baltimore, — although as many as twenty refineries had been set up in the oil region. Because of its location, having both water and rail communication, Cleveland secured the lead in the refining of oil by 1869.

It should be borne in mind that by 1872, three trunk lines competed for the business of carrying oil from the oil fields, — the Pennsylvania (which had leased the Philadelphia and Erie), the Erie, and the Central. Already competition had become so great among these roads that the freight discriminations which were later to play such an important rôle in the development of the oil industry were common even at this early date.

By 1872 the chief competitor of the Oil Creek district was Cleveland, Ohio, which since 1869 had been refining annually more oil than any other one place in the country. As already stated, this was due to Cleveland's exceptionally good position as a transportation center. "It had two trunk lines running to New York, both eager for the oil traffic, and by Lake Erie and the canal it had for a large part of the year a splendid cheap water way." Cleveland by geographic position was destined to be a refining center, though two hundred miles from its source of raw material.

This is of interest because of the fact that as early as 1862 Mr. Rockefeller and a partner then in the produce business invested $4000 in an oil refinery which was run by an Englishman of ability named Andrews. It succeeded so well that in 1865 Mr. Rockefeller entered the firm himself and soon started a second refinery, and then opened a house in New York for selling oil.

In 1870 Mr. Rockefeller combined all his companies into one — the Standard Oil Company, with a capital of $1,000,000. Associated with him were five or six of Cleveland's rising business men.

The success of the Standard Oil Company from the start was phenomenal. There seems small room to doubt that much of its success was due to the exceptional abilities of Mr. Rockefeller and his associates as men of business. To secure the many economies in a refining business, small concerns must either increase their capital to about $500,000, or else combine into a larger and more efficient unit of production. "Mr. Rockefeller was among the first to see this. He afterwards stated the cause of his union with certain other business men of Cleveland was 'the desire to unite our skill and capital, in order to carry on a business of some magnitude and importance in place of the small business that each had separately heretofore carried on.'"

At this time the Standard Oil Company was not the only large refining concern in Cleveland, though it was the largest, producing 4 per cent of all the oil refined. That the Standard Oil Company should so far outstrip the others gave rise to the suspicion that the Rockefeller concern was getting better rates from the railroads than their rivals. A representative of one of such firms complained to one of the railroad managers, "We cannot compete if you do that." The railroad agent did not deny the charge, but agreed to allow the complaining firm a rebate also by which at the end of each month it got back in money fifteen cents on the forty cents it had paid for bringing the crude oil from the wells to

Cleveland. There seems little room for doubt that the Standard Oil Company was the recipient of special favors from the railroads. Even apologists for the company are free to admit this. They contend that at that time granting of rebates to big concerns affording a large volume of traffic to the railroads was a common practice. Public opinion was not at that time crystallized on the evils of discriminations, and the Interstate Commerce Law was still a thing of the future. They further contend that the railroads tapping the oil territory were so "poor and the necessity for revenue so great" that rate wars were inevitable and likewise secret rebates. The Pennsylvania, the Erie, and the New York Central Railroads annually agreed on rates and annually broke their agreements. Thus they maintain that if the Standard Oil Company was guilty of accepting rebates, the railroads were equally to blame in offering them as a means of securing greater traffic than some competing line.

There were two interests concerned in Cleveland's supremacy as an oil-refining center, the Standard Oil Company and the Lake Shore and New York Central Railroads. Competition between the oil-carrying roads became more and more intense, and the refiners more and more insistent in demanding rebates. Because of Cleveland's situation as a competitive point, having both railroad and water communications, she had the New York Central at her mercy. Cleveland accordingly secured as low rates as Pittsburg.

In 1871 an unexpected shift in the center of oil production threatened the entire refining business of Cleveland. Had not the railroads come to Cleveland's rescue, this doubtless would have happened. The center of oil production moved southward from the Venango region to Butler and Clarion counties, Pennsylvania.

About this time Philadelphia and Pittsburg, as well as Cleveland, feared the rise of the oil regions as a refining center. This gave certain refineries in these three cities

a strong bond of sympathy. Besides prices for refined oil were steadily falling. The refining business had been overdone. There was a refining capacity of three barrels for every barrel produced. In 1865 Mr. Rockefeller had "a margin of 43 cents, out of which to pay for transportation, manufacturing, barreling, and marketing, and to make his profits." By 1870 he had but $17\frac{1}{8}$ cents with which to do all this.

A third bond of union was the changing condition of the foreign market. Foreign nations were beginning to cut down on importation of refined oil and to import the crude instead in order to encourage home refineries. These three bonds of union among certain of the refineries of Cleveland, Pittsburg, and Philadelphia led to a remarkable plan among American refiners which Miss Tarbell has ably described as follows in her *History of the Standard Oil Company*: —

"In the fall of 1871, while Mr. Rockefeller and his friends were occupied with all these questions, certain Pennsylvania refiners, it is not too certain who, brought to them a remarkable scheme, the gist of which was to bring together secretly a large enough body of refiners and shippers to persuade all the railroads handling oil to give to the company formed special rebates on its oil, and drawbacks on that of other people. If they could get such rates, it was evident that those outside of their combination could not compete with them long, and that they would become eventually the only refiners. They could limit their output to actual demand, and so keep up prices. This done, they could easily persuade the railroads to transport no crude for transportation, so that the foreigners would be forced to buy American refined. They believed that the price of oil thus exported could easily be advanced 50 per cent. The control of the refining interests would also enable them to fix their own price on crude. As they would be the only buyers and sellers, the speculative character of the business would be done away with. In short, the scheme they worked out put the entire oil business

in their hands. It looked as simple to put into operation as it was dazzling in its results."

The outcome was the organization of the famous South Improvement Company. "Of the two thousand shares of this company a large block was held by the Rockefeller interests." The South Improvement Company, though actually controlling but about one tenth of the actual refining business of the country, had great hopes for the future, which it did not fail, in seeking to carry out its project, to put before the three railroads interested in carrying oil.

By 1872 the South Improvement Company effected the desired contracts with the Pennsylvania, the New York Central, and the Erie Railroads. The Improvement Company agreed on a certain division of traffic between the three roads and also "to furnish suitable tankage facilities for shipping petroleum and receiving it at its destination, and keep records of the amount of petroleum and its products shipped over the railroads both by itself and by other parties.

"The railroads in return agreed to allow the South Improvement Company rebates on all petroleum and its products carried by them, to charge all other parties not less than the full rates specified in the contract, to furnish to the South Improvement Company waybills of all petroleum or its products transported over their lines by any parties whatsoever; and, finally, 'at all times to coöperate, as far as it legally may, with the party hereto of the first part, to maintain the business of the party of the first part, against loss or injury by competition, to the end that the party hereto of the first part may keep up a remunerative, and so a full and regular business, and to that end shall lower or raise the gross rates of transportation over its railroads and connections, as far as it legally may, for such times and to such extent as may be necessary to overcome such competition.'"

As a result of this agreement the open rate from Cleveland to New York was two dollars. "Fifty cents of this was turned over to the South Improvement Company which

at the same time received a rebate enabling it to ship for $1.50." Furthermore, as one writer points out, "An independent refiner in Cleveland paid eighty cents a barrel to get his crude from the oil regions to his works, and the railroad sent forty cents of this money to the South Improvement Company. At the same time it cost the Cleveland refiner in the combination but forty cents to get his crude oil. Like drawbacks and rebates were given for all points — Pittsburg, Philadelphia, Boston, and Baltimore.

"An interesting provision in the contracts was that full waybills of all petroleum shipped over the roads should each day be sent to the South Improvement Company. This, of course, gave them knowledge of just who was doing business outside of their company — of how much business he was doing, and with whom he was doing it. Not only were they to have full knowledge of the business of all shippers — they were to have access to all books of the railroads."

As a result of the new strength of the Standard Oil Company under the form of the South Improvement Company, the entire independent oil interest of Cleveland collapsed in three months' time. Of the twenty-six refineries, at least twenty-one sold out.

When the real nature of the South Improvement Company leaked out, public indignation, especially in the oil regions, was at its height. It was the stopping of the oil supply by the Producers' Union that made the South Improvement Company realize that it could not have everything its own way.

In short, as a result of a legislative investigation as to the real nature of this Improvement Company, and of the general popular disapproval, the South Improvement Company came to an end. Peace was once more restored in the oil regions, though much hostility was still felt toward the Standard Oil Company, which was viewed as the prime mover in the late "conspiracy."

About the same time the Standard Oil Company of Ohio

increased its capital stock from $1,000,000 to $2,500,000, and in the same year combined with four fifths of the refining interests of the United States. The official title of the new combination was the National Refiners' Association, of which Mr. Rockefeller was president.

The new alliance accomplished openly what the South Improvement Company had attempted secretly. Its formation aroused hardly less indignation than its prototype, especially among the producers who saw the possibility of having but one purchaser to whom they could dispose of their goods. They formed a Producers' Agency, with a stock of $1,000,000. To make peace with this concern, the Standard Oil offered a fair price for crude oil and promised to purchase from it alone so long as it would maintain prices. Soon after Mr. Rockefeller gave the producers an order for 200,000 barrels of oil at $3.25. The ultimate outcome of this overture was the formation of an alliance between the Refiners' Association and the Producers' Association on the terms that the former association should accept no rebates during the life of the alliance and that both associations should be open to all the producers and refiners who cared to join them, and finally that the Producers' Association should sell only to members of the Refiners' Association. The contract was soon broken. Mr. Rockefeller charged the producers with failure to limit the supply of crude oil according to the understanding.

In June, 1873, the combination of Refiners likewise came to an end. There was a lack of internal harmony. Members of the association had at times sold their refined oil at a lower price than dictated by Mr. Rockefeller. Though there was rejoicing in many camps, it soon became apparent that though the association was dead, the Standard Oil Company of Cleveland was not. It controlled one fifth of the capacity of the country and was making still greater strides in enlarging its output. In 1872 the Standard Oil Company paid a dividend of 37 per cent, but in 1873 it was

cut to 15 per cent as a result of the many enlargements which the company was making, such as building barrel factories and buying tank cars. By 1874 the capital of the Standard Oil Company of Ohio had increased to $3,500,000. In 1874 there were "in the oil regions proper but few refineries, and those universally owned by the Standard Oil Company."

One fact should be borne in mind in this connection, namely, the subject of discrimination. Quoting from *The History of the Standard Oil Company:*—

"Before a year had passed after the end of the Oil War, all the roads were practicing discrimination, how a few shippers were again engaged in a scramble for advantages, and how the big shippers were bent on reëstablishing the principle supposed to have been overthrown by the Oil War, that one shipper is more convenient and profitable for a road than many, and this being so, the matter of a road's duty as a common carrier has nothing to do with the question," is of interest.

Though the South Improvement Company and the National Refiners' Association had each failed, those who sought monopoly control of the market were not discouraged. In 1874 Mr. Rockefeller persuaded a large refiner in Philadelphia and one in Pittsburg to transfer their refiners to the Standard Oil Company of Cleveland and to take stock in exchange. He planned to absorb other refineries as rapidly as possible without attracting too much public attention. This new scheme was executed under the name of the Central Association, of which Mr. Rockefeller was president.

"Its main points were that if a refiner would lease to the association his plant for a term of months he would be allowed to subscribe for stock of the new company." The lease allowed the owner to do his own manufacturing, but gave Mr. Rockefeller's company "irrevocable authority" to make all purchases of crude oil and sales of refined, to decide how much each refinery should manufacture, and *to negotiate for all freight and pipe-line expenses.*

By this plan the Standard Oil Company owned in each of

the great refining centers, New York, Pittsburg, and Philadelphia, a large and aggressive plant run by the men who had built it up. To the outside world it stood in the nature of an "association." The work of absorption went on until even the refineries of the oil regions were taken in. In Titusville there was practically left only the Acme Oil Company and in the Oil City, the Imperial, both under Standard management. Many of the old independent plants in this district bore the signs "sold out," "dismantled" or "shut down." By 1879 the Standard Oil alliance controlled the transportation of oil by rail and by pipe line and produced 95 per cent of the refined oil of the country.

"A proposal from Mr. Rockefeller was certainly regarded popularly as little better than a command to 'stand and deliver.' 'The oil business belongs to us,' Mr. Rockefeller had said. 'We have the facilities; we must have it. Any concern that starts in business we have sufficient money laid aside to wipe out.'"

In this the cause of the Standard was often aided by railroads refusing cars to independent shippers. In fact, in a suit brought by the Commonwealth against the Pennsylvania Railroad, Mr. A. J. Cassatt's testimony amounted to the practical admission "that the Pennsylvania Railroad had become the creature of the Standard Oil Company; that it was not only giving that company rates much lower than to any other organization, but that it was using its facilities with a direct view of preventing any outside refiner or dealer in oil from carrying on an independent business."

In organization the Rockefeller interests were only an informal substitution for a modern trust. The various companies of the alliance were merely kept together by personal agreement between officers of the various companies and a common ownership of stock among them. By 1881 the Standard Oil Company of Ohio, the nucleus of the above-mentioned alliance, was a corporation capitalized at $3,500,000. The next move was to make more

convenient the control of oil business, and as a result the Standard Oil Trust was formed. This was accomplished by an agreement whereby all the stock of the various members of the Central Association was placed in the hands of trustees. In exchange for the stock, trust certificates were issued showing the amount of each owner's interest in the stock so held. This simple device of a board of trustees who held in trust all the stock of the constituent companies placed the voting power and control of the trust in the hands of a small board of nine trustees.

About this time there was a fierce contest being waged between the railroads and the Tidewater Pipe Line Company. This was of benefit to the shippers as it gave them exceptionally low rates, but it was of special benefit to the largest shipper of all, the Standard. Soon, however, the Standard began building pipe lines of its own to the seaboard. The formation of the National Transit Company soon followed. The Tidewater Pipe Line Company was finally forced to cease opposition, and finally on the strength of a fifteen-year contract with the National Transit Company peace was restored, and the Standard Oil Trust has established itself in the strategic position of practically controlling the transportation of oil to the seacoast.

From this time on, the progress of the Standard Oil Company was rapid. In 1882 the property of the various companies was valued at $75,000,000. In 1892 it had risen to $121,631,312; "and 50 per cent of this increase had come from profits invested and the remainder from additional capital subscribed." The dividends during this same decade rose from $5\frac{1}{4}$ to 12 per cent. The attitude of the trust during these ten years has aptly been described as one of "quiet dominance."

An unexpected difficulty in the legality of its organization was soon destined to make necessary a complete change of organization.

The State of Ohio in 1891 took action against the Standard

Oil Company on the ground of violating the laws of the State by being a party to an agreement against public policy. The outcome of the suit was the revoking of the charter of the company and a dissolution of the trust. The nine trustees were compelled to return the stock to its rightful owners. The trust dissolved the separate establishments, and plants were reorganized into twenty constituent companies.

"Although the trust was formally dissolved, the men who were the trustees hold a majority of the stock in all the different companies which composed the trust, so that they work together as harmoniously as before."

"In order to secure more complete unity and to provide for the claims of smaller holders of trust certificates, the Standard Oil Company was organized under the laws of New Jersey in 1899. This corporation, though practically a new organization, was in form a continuation of the old Standard Oil Company of New Jersey, with an amended capital increased from $1,000,000, to $110,000,000. This corporation was authorized to own the stock of any of the different corporations connected with the Standard Oil Company, and to buy from all parties who own such stock whenever they desired to sell. 'The new Standard Oil Company of New Jersey,' said the Industrial Commission in 1900, 'has recently been formed with the intention of transferring the stock of the different corporations into the stock of the new company, so that, when the transfer is finally made, one single corporation, the Standard Oil Company of New Jersey, will own outright the property now owned by the separate companies which are commonly known and mentioned together under the name of the Standard Oil Company. This combination at present has no formal unity. It has a practical unity as great as it will have probably after the complete change into the New Jersey company is effected. Since 1900 about $97,000,000 of the capital stock of this company has been used to purchase at par the stocks and properties of the other Standard

companies, the capitalization of which was approximately $97,000,000, but whose good will and earning power, as represented by the market value of the stock, aggregates $650,000,000.'"

In addition to the causes already mentioned as lying back of the rise and progress of the Standard Oil Company lies the advantage which "the Standard Oil Company has in distributing its refineries in strategic locations. Not only is a saving in transportation charges thus effected, but advantages accruing from cheaper land, labor, and fuel are also secured. To gain this economy, the Standard Oil Company spent millions in new plants near New York and Philadelphia. It bought the entire output of the refineries in the newly discovered oil region in Colorado, and secured control in 1898 of 75 per cent of the refining business in Canada; and for the same purpose it has recently rebuilt refineries in Pennsylvania, in order to profit by the cheapened fuel."

There is also the further advantage in the exceptional opportunity that the company has for using by-products — "The leading products are gasoline, naphtha, paraffin, lubricating oils, and vaseline products. In addition to these, fully two hundred other by-products are extracted and used for medical purposes and for aniline dyes. To utilize all these by-products requires the greatest specialization of methods, of capital, and extension of plant. A refinery of a capitalization of $500,000 cannot realize such economies. The undoubtedly large profit accruing to the Standard Oil Company from the utilization of by-products is owing entirely to its superior mechanical efficiency and organization."

With its early start, its tremendous size, and its large capitalization, it is not hard to see how the Standard Oil Company to-day controls 90 per cent of the export trade and 80 per cent of the domestic trade. Its only competitor, if such a term be appropriate, is the Pure Oil Company — a combination of sixty odd independent refineries operating in conjunction with an independent seaboard pipe line.

CHAPTER XXXVII

THE UNITED STATES STEEL CORPORATION

THE history of the antecedents, formation, and present activity of the United States Steel Corporation forms one of the most interesting chapters in the economic history of America. It is replete with many illustrations of principles that economists speak of in the abstract, as large-scale production, integration of industry, monopoly control, and utilization of by-products. The study of a concrete example of economic principles is analogous to the *case system* so generally successful in the law schools of the land. As matter concerning all the great industrial activities of the country becomes more and more available, there is every reason to hope that treatises on economics may combine both theory and fact.

The United States Steel Corporation commenced business in April of 1901, but to get anything like an adequate understanding of this gigantic combine one must start with a much earlier date and deal with concerns manufacturing steel long before the Steel Trust was promoted. In the following account of producing and marketing of steel the writer has borrowed freely from that excellent little treatise, *The Story of Iron and Steel*, by Joseph Russell Smith, to which the reader is referred for a fuller presentation of the subject than is possible within the limits of a single chapter.

In 1880 Great Britain was the greatest iron-producing country in the world. Her only two rivals, the United States and Germany, trailed far in the rear. To-day the United

States stands in the first place, while Germany and England bring up the rear. We are producing over twice as much as either Germany or England.

Several reasons may be given to account for this remarkable progress. Chief among these are first, that the American manufacturer had a great area to cater to, which was rapidly increasing its consumption of his product. Many of our present railroads and industrial plants were still to be built. This market was reserved to the American iron maker by a high protective tariff.

Secondly, we had wonderful resources not only in iron itself, but also in those kindred resources so necessary to cheap iron manufacturing, coal, flux, and natural gas. The presence of these three in great quantities and conveniently located gave the basis of America's ultimate supremacy over her less generously endowed competitors, England and Germany.

But resources as important as they are form but the basis of success. It has been the mechanical organization of the iron and steel business in America that is most largely responsible for our success. The scarcity of labor in America and its relative high pay has compelled this advance in the United States. At every step in his adjustment to conditions, the American manufacturer has made efficiency his supreme test. Their policy, unlike the English, has usually required the displacement of a good machine by a better one as soon as it could be found, regardless of whether the machine were relatively new or not.

Included in the question of mechanical organization is that of obtaining a steady and cheap supply of the raw materials of manufacture. This phase of the story of iron and steel reads like a romance. Pittsburg owes its prominence as center of the iron industry because of its native supplies of fuel and ore and its excellent transportation facilities. About 1880, however, her local ore supply showed first signs of exhaustion. Fortunately, about this time, ore of an excellent

quality was discovered on the shore of Lake Superior. But this new supply was a thousand miles away. There being an almost complete water route between the source of the supply and the point of manufacture, it soon became apparent that the economic source of supply for Pittsburg was the Lake Superior mines, and not the poorer local ores. To carry ore a thousand miles for commercial purposes is no small task, but to carry it so economically that European manufacturers with local supplies cannot get their supplies more cheaply has called forth all the inventive genius and use of mechanical force for which America is noted.

In 1884, when Pittsburg first got her supply from Lake Superior, it was by means of shovels, buckets, windlasses and wheelbarrows. To-day it is carried from the mines to Pittsburg at an expense that almost staggers belief, by means of huge mechanical contrivances which have practically eliminated all human muscle. To quote an interesting paragraph from Dr. Smith's book: "This involves two transshipments, and carriage upon two railways, and a steamship. Some of the Lake Superior mines are so favorably located that the ore can be taken out by steam shovels in the manner identical with that of digging a railroad cut, now familiar to nearly every one. For a few cents per ton, the ore is thrown upon cars which are drawn away from 10 to 100 miles to the upper lake ore docks situated high upon the bluffs. From this height the ore runs from the bottom of the car into the top of the ore bin on a high wharf, thence through chutes into the hold of a steamer below. This gravity loading serves to fill the steamer in a minimum of time, and almost before she is tied to the dock she is ready to depart for the lower lake port. Here the speed and method of unloading eclipse all records. Special machinery has been evolved whereby steam and electricity operate huge buckets that grab into the ore in a ship's hold just as a boy's two hands might grab sugar in a barrel. They close upon it and lift it just as easily as the hands could lift sweets.

Some of these grab buckets seize as much as ten tons at a time, and there is a row of them, one working at each hold of the ship, which is open from stem to stern. In 1901 a machine that could unload 6000 tons in 8 to 12 hours for seven cents a ton was thought to be highly efficient. Shortly after this the 6000 tons were unloaded by machinery in from 8 to 10 hours for less than seven cents a ton. In 1903 the record for 5000 tons by another machine was 3 hours 36 minutes. This plant with its crew of 17 men would, with the best type of ship, handle 10,000 tons in 6 hours, and during six months of 1903 it handled $2\frac{1}{2}$ million tons of ore, and although the plant cost a quarter of a million dollars, it handled ore for less than four cents a ton. But the next year this, too, was outdone, and a new plant, whose grabbing hands handled $7\frac{1}{2}$ tons each, could be operated by two men, who, by merely touching levers, controlled 150 horse power, and unloaded ore for the astounding cost of two cents per ton. This low cost was contributed to by the fact that the machine could reach 98 per cent of the ore in the bottom of the boat rather than requiring hand labor to gather up the last part, as was common with most of its predecessors."

From the lake docks the ore is loaded by mechanical devices on to cars, which rush it to the blast furnaces, where the cars are run upon high trestles. Through openings in car bottoms the ore is shot into the storage bins of the furnace, which again open at the bottom into cars holding a ton or two. These in turn are carried by gravity on to a lift which carries them up an inclined plane from the top of which it automatically empties them into the furnace.

The same economic, manless handling which characterized the journey of the ore from the time that it left the earth until it reached the throat of the furnace is continued until the finished product is on the car ready for the consumer. The iron is carried while still hot to the near-by steel works.

Again man has harnessed the forces of nature and made them work for him. Quoting further from *The Story of Iron and Steel*, we read: —

"Steel is not made with hands. In the iron and steel industry of America, mechanism rules supreme. Man does little more than touch levers, while the balance is done by steam and electricity, hammering and pulling and lifting with a force unknown to the giants of mythology. Four huge Bessemer converters holding fifteen or twenty tons of molten iron do their work by an air blast driven through molten metal by the force of an engine. The air blast and the hydraulic force which swings the converter as easily as a clock does its pendulum, are both controlled by two men sitting in a cool breeze on a high platform at the far end of a large shed. The electric cranes swing the 20-ton charges of molten metal and the heavy converters as easily as the schoolboy swings his dinner pail, and pour the new-made steel into a metal mold which already stands upon a train with a snorting little locomotive ready to take it to the hydraulic machine which draws the mold from the red-hot ingot. Away runs the train to the steel mill, where an electric arm places the 7000-pound ingot in a seething, soaking pit, to keep it hot until it starts down the rolls, which may make it almost anything, — a steel rail or beam for a railroad bridge in India, a girder for a sky-scraper for New York or San Francisco, a rib of a ship for Philadelphia or Chicago, or a little billet to make a wire fence for the farmer's pig lot, or nails for the carpenters' resounding hammer."

It has been this extensive use of machinery, which runs as smoothly as clockwork, that explains the supremacy of America to-day. Fortunately, scarcity of labor in this country compelled the extensive use of machinery. The results have been far greater than was ever dreamed.

Having dealt with more or less of the technical side of the producing of steel, we will now turn our attention to business

aspects involved. To understand clearly the formation of the United States Steel Corporation, one must make mention of at least one of its predecessors, notably the Carnegie Steel Company of Pittsburg. This company has been a pioneer in every way. As early as 1882 it had started on a policy of the integration of industry which afterward made it so impregnable to the attacks of all rivals.

It early secured under its control the production of its own raw materials. It acquired the controlling interest in the H. C. Frick Company, the largest producer of coke in the famous Connellsville region, whereby it secured coke at unparalleled prices. It furthermore bought ore supplies and transportation facilities. As Professor Smith's history of this company points out: —

"In 1897 the company had control of large ore regions in the Lake Superior district, and in addition made a fifty-year contract for a yearly supply of a million and a half tons of ore delivered at the lower lakes. The company also secured control of the Pittsburg Steamboat and Steamship Company, owning in 1900 eleven steamships, two tug boats, and six steamers under construction. It secured control of the Pittsburg, Bessemer, and Lake Erie Railroad, extending from the lake port of Conneaut, where there were large ore docks, to the Carnegie mills at Duquesne, near Pittsburg. This railroad was reconstructed, equipped with hundred-pound steel rails; it had the first steel cars in this country, and had the heaviest locomotives. By the aid of these improvements, ore was carried at cost, at the almost unknown figure of one mill per ton for a mile. The Carnegie Steel Company was now independent of other companies in the supply of its fuel, its ore, and the transportation of the same, and was free from the fluctuations of cost in these supplies. The profits of these subsidiary operations were cost factors for their rivals, and profit factors for the Carnegie Company. These equipments, in addition to the splendid mills and furnaces, placed the Carnegie Company in the foremost

position among the iron and steel makers of the United States and of the world."

One of the chief motives back of the trust movement of the '90's was the desire to escape the evils of cut-throat competition by maintaining prices. The business man dislikes above all things unsteady prices. In no industry do prices naturally fluctuate so violently as in that of iron and steel, depending as they do on supply of a commodity whose consumption readily drops off with the advance of the slightest business depression.

The dark days for the iron and steel manufacturers came in the business stagnation between 1893 and 1898. The outcome was the formation of a number of pools which apportioned the business of the country among its various members. Goods were to be sold at a price agreed upon. These pools were short-lived for various reasons, chief of which was the fact that a pool is against the spirit of the English and American common law and therefore no terms made under such agreements could be enforced by law.

Pooling having failed to secure steadiness of prices in the steel business, the desired end was accomplished through consolidation of competitors in the same line of goods. As a result, during 1898 and 1899 such gigantic trusts as the American Steel and Wire Company, the American Bridge, the National Tube, the American Tin Plate, the American Steel Hoop, and the American Sheet Steel were formed.

These trusts were almost wholly financed by Wall Street. The returning tide of prosperity made an excellent market for unloading stock. Often dividends were declared with an eye to the effect on the stock market when it would have been better business to build up reserves for the lean years.

In 1900 a depression in the steel trade found these trusts with scanty reserves to carry them through the rainy day. As with individuals, so with these steel trusts, self-preservation became the first law of life. To weather the storm meant either to cut down expenses by getting the raw materials of

manufacture more cheaply, or by increasing profits by enlarging the territory for its finished products. This might be done by manufacturing several articles in place of one.

To understand the result that this threatened competition would have on the steel trusts, one must see how these combines were interdependent on each other. The Carnegie Steel Company, the Federal Steel Company, and the National Steel Company each manufactured unfinished steel as ingots, billets, bars, plates and slabs. These products they sold to the other steel trusts, the American Tin Plate, the National Tube, the American Steel and Wire, the American Steel Hoop, and the American Sheet Steel companies, who turned out the various steel finished products.

To tide them over all depressions this last group of trusts decided to cut down their expenses by manufacturing their own pig iron. The American Steel and Wire Company accordingly bought coal lands and lake steamers, and planned erecting furnaces of their own.

Naturally the Carnegie Steel Company and the other trusts in the finished-product group did not stand by and see their market stolen from them. The Federal Steel Company increased its holdings of ore and coal and secured additional lake steamers and railway connections. It announced its purpose of building plants where it would turn out finished products in competition with those companies already in that line. The Carnegie Steel Company made a similar move by planning the erection of a plant for the turning out of finished products which would be in its equipment without a rival in the world.

The threatened war of competition among the giants struck consternation to the hearts of all but the Carnegie Steel Company. This concern, from the start, had been very conservatively managed and was in an excellent financial position. The other trusts, on the other hand, had largely been the product of Wall Street manipulation, so that their financial standing was not nearly so good as that of the

Carnegie Company. In addition the Carnegie plants were the best equipped in the country and its control of raw materials almost perfect. The various financial concerns soon realized that with the Carnegie Steel Company competing in their field their desired profits would immediately be cut down. Consequently, the only possible alternative for them was to make peace with Mr. Carnegie, and at his terms. The result of the whole situation was the formation of that gigantic combine known as the United States Steel Corporation, which at its outstart controlled about two thirds of the steel output of the country. Some plants were too small to care for and others refused to come into the combine.

In 1902 its assets were given as follows: —

Iron and Bessemer ore properties	$700,000,000
Plants, mills, machinery, etc.	300,000,000
Coal and coke fields	100,000,000
Railroads, ships, etc.	80,000,000
Blast furnaces	48,000,000
Natural gas fields	20,000,000
Limestone properties	4,000,000
Cash and cash assets	148,281,000
	$1,400,281,000

By December, 1906, its assets had grown to $1,618,309,769.

This corporation has been a success in its purposes. It has controlled and steadied prices; moreover, it is perhaps one of the best organized industries in the world. All its various parts fit into each other with perfect accuracy and run like clockwork. It is maintained that the "control of steel industry lies in the control of the raw materials." Along this line the steel trust has pursued a far-sighted policy by taking over one ore property after another. It is computed that it owns about 2,000,000,000 tons of ore, while the independents control 500,000,000.

Dr. Smith concludes that the trust is stocked for at least a half century to come, going on "the assumption that the iron industry continues to be dependent upon its

present technical process, which can use only high-grade ore."

The United States Steel Corporation has succeeded where pools and the earlier trusts failed. It has brought steadiness to the steel industry and stands to-day as "the most stupendous corporation that man has yet dared to launch."

CHAPTER XXXVIII

THE CORPORATION AND THE PUBLIC

PERHAPS in no more vital way does the public come in contact with the trust than in reference to the subject of prices. How may the trusts affect prices and how have they done so? The only way the trust can affect prices is by limiting the supply of the article in question and then allowing the ratio of exchange with other articles to adjust itself. If the other article is money, then the price is said to change. The trust cannot fix a price and say, "Go to, we will charge so much." Only by first altering the supply can changes in prices be effected. This is an economic principle which all who would fix prices must follow, and the trust is no exception.

Because of the economies of large-scale production and combination, the trust should be able to sell its products at prices lower than could be possible with smaller competing units. If, however, the trust maintains prices at their old level, the gain will accrue to the monopolist, unless organized labor compels the trust to share with it by demanding higher wages on account of the exceptional gains of the trust. A change in price may then benefit the consumer, the trust, the workman, or all three. This will largely be determined by the relative degree of monopoly power held by each. So much for the theoretical way in which large combinations may effect prices and the public.

How have the trusts actually affected prices? Perhaps this cannot be better answered than by quoting a paragraph from Professor Fetter's work on *The Principles of Economics*: —

"The influence of the sugar trust may be studied by what is known as the method of differentials. The differential in sugar is the difference between the cost of the raw sugar and the refined granulated sugar. Raw sugar is the main material and the principal fluctuating item of cost beyond the control of the trust. Changes in the differential reflect the changes in profits except as modified by a cheapening of the process. The period from 1880 to 1887 was one of great competition. In 1880, the differential was one and ninety-two hundredths cents on each pound of refined sugar, but it fell steadily till, in 1887, it had reached sixty-four hundredths cent. In the fall of that year the trust was formed; and the next year the differential had risen to one and twenty-five hundredths cents, in 1889 to one and thirty-two hundredths cents. Tempted by the enormous profits, the rival refineries of Claus Spreckels were started, and with competition the differential fell, in 1890, to seventy hundredths cent. The rival factories were then bought up, and under the new combination the differential went sailing up to one and three hundredths in 1892, and to one and fifteen hundredths in 1893. Rival factories again arose and competition grew stronger, reducing the differential to ninety-four hundredths in 1894. It was in that year that the firm of Arbuckle Brothers and Claus Doscher each opened a great refinery, and in the next year the differential fell to fifty hundredths cent. In 1900 some agreement, the terms of which were unknown to the public, was entered into by the rivals, and the differential had risen, in March, 1901, to ninety-five hundredths cent. In every case the differential fell when competition was effective and went up when monopoly power was regained."

Professor Fetter points out the same influence in the cases of the oil trust, the nail trust, and the tin-plate trust, and comes to the conclusion that "trust prices are always raised when, and to the extent that, control is secured. They are lowered below normal prices when competition becomes

troublesome. Fluctuation of prices probably has been more rapid and more spasmodic under trusts than it has been under ordinary competitive conditions."

Professor Ripley, in his book on *Trusts, Pools, and Corporations,* practically reaches the same conclusion by noting, for instance, the sugar and oil trusts. He declares that "no candid observer can deny that monopoly price where possible is much higher than the price level under competition."

The following, from the pen of Professor Bullock, but emphasizes what has been already said: —

"Economists do not need to be told that a combination that produces from 70 to 90 per cent of the supply can substantially control prices, and this is admitted by such expert witnesses as Messrs. Havemeyer and Archbold. It is well known that many trusts control from 65 to 95 per cent of all products of their respective industries, and that some of them announce from day to day the prices that prevail in domestic markets. Therefore, we are not surprised to learn that the most reliable investigation into prices shows that, in almost every case, combinations have managed to increase the margin between the cost of materials and the price of the finished product for considerable periods of time. This fact establishes the existence of monopolistic intent and monopolistic power."

Miss Tarbell, in a chapter on the Price of Oil, makes the significant statement: "It is generally conceded that the man or men who control over seventy per cent of a commodity control its prices. . . . Within limits, very strict limits, too, such is the force of economic laws. In the case of the Standard Oil Company the control is so complete that the price of oil, both crude and refined, is actually issued from its headquarters."

There are elements of price control which do not present such a dark picture. It is said that the iron makers view the United States Steel Corporation in a most friendly manner because they are free to make and sell iron under the benefit

of the price regulation which the steel trust had inaugurated. Professor Smith, in *The Story of Iron and Steel*, states that the steel trust's price control "has prevented sharp rises to the heights of fabulous profit that there might be no falls to the depths of stagnation and bankruptcy," and further, "this price-steadying is of incalculable benefit to the independent manufacturer, even when it limits the heights to which a price spurt will go. The apparent contradiction of benefit from temporary lessening of profits is explained by the fact that rapidly rising prices start a feverish, intoxicated condition of the market, which is very pleasant while it lasts, but, like most intoxication, is followed by a yet more unpleasant reaction. Therefore the trust tries to keep sober and keep its little brothers sober also, and all are profiting by the new temperance.

"Through its mere size the United States Steel Corporation can control many prices by simply maintaining quotations to which buyers must conform. Such control, however, is much easier in the preventing of high prices than in keeping prices from falling."

Interesting in this connection is the testimony from another source. In a very recent book on the United States Steel Corporation, by Abraham Berglund, the author reaches the conclusion that the company has never had — and is not likely to have — more than a qualified monopoly of the steel trade; that its policy in respect to prices has been one of moderation, but would probably not remain so moderate if monopoly were ever assured; and that such control over markets as the organization may wield in the future will probably be exercised in association with independent producers through such agencies as pools or price agreements.

Though probably the trusts affect more people through their influence on prices, there are other points of contact giving rise to serious problems. Chief among these are questions of over-capitalization, corruption of public officials, and stock manipulation. The evils of over-capitalization are

several. First, there is the injury that may be inflicted on the "innocent investor," and secondly, the interest of the State may be impaired by over-capitalization. Many an investor on the strength of the earnings of a concern (which are really due to monopoly control, rather than to capital actually paid in and invested in equipment), pays high prices for stock. If any unexpected turn happens whereby this monopoly control is lessened, their investment dwindles to nothing. Further, this class of "innocent investors" gives rise to "vested interests" which oppose any public measure which tends to lessen the returns on their investment, though these returns are taken from the pockets of the people through franchise grants or the like. Their business instinct leads them to oppose a measure, however good for the public, which tends to lessen the return on an investment made in good faith.

Furthermore, through that method of over-capitalizing known as "stock watering," corporations have been able to conceal their earnings and so escape inviting competition, as well as preventing the conservative investor from knowing whether the earnings represent a fair return on capital actually invested or not. The evil which lies at the basis of over-capitalization is that in nine cases out of ten it leads to deception. The average person is thrown off his guard in placing a real value on the stock which he buys; the officials charged with enforcing the tax laws are deceived as to the basis on which to act; and finally over-capitalization tempts those in charge of large concerns to endeavor to earn dividends at the expense of the public. Experience is proving that, in the long run, the safely capitalized concerns can alone command the banker's credit, weather periods of financial strain, and hold the allegiance of investors. In regard to the prevalence of over-capitalization a word from *The Story of Iron and Steel* may not be out of place: —

"While these companies were formed as the result of the stimulus of depression and lean years, they could only be

brought about by the financial conditions of the period of returning prosperity. Naturally, a prosperous mill was not to be had cheaply. Each manufacturer whose plant was bought out sold at a figure which capitalized his present profitable earnings and possibly his hoped-for future earnings. This was but human nature, and the trust formers therefore had to face the difficulty of starting with heavily over-capitalized companies. Six of the largest of these companies which afterwards entered into the United States Steel Corporation, having a capital of nearly half a billion dollars, had at least 53 per cent of this capitalization in the form of common stock, which admittedly represented no present value, but was merely value in prospect."

The corruption of public officials is not a practice solely connected with corporations, but it is a matter of great import. The dangers that lie in it are so great, that an aroused public opinion has forced the political parties of to-day to make public the source of their campaign contributions, and in certain States has compelled the railroads to abolish their system of free passes. The influence of the railroad over political affairs is so great as to elicit the following from the pen of Professor Fetter: "The wealth and industrial importance of the railroads give them widespread political power in other ways. It is commonly charged in some States that the legislature and the courts are 'owned' by the railroads. The railroads, in part because they are the victims at times of attempts at blackmail by dishonest public officials, are compelled in self-defense to maintain a lobby. The railroad lobby, defensive and offensive, is in many States the all-powerful 'third house.' Railroads even have their agents in the primaries, they enter political conventions, they dictate nominations from the lowest office up to that of governor, and they elect judges and legislators. The extent to which this is done differs according as the railroads have large or small interests within the State. How is this great political problem to be met except by an

appreciation of its importance and by a growth of public integrity?"

The following, from Professor Seager, is hardly less positive: —

"Corporate officials, moreover, do not hesitate to do things in the name and under cover of their corporations which they would be ashamed to perform openly for themselves. In the United States corporations have been guilty of buying legislatures, corrupting judges, bribing juries entering into agreements with political parties, insuring them certain privileges in return for campaign contributions, and in fact, of every sin in the political calendar. It is owing largely to them that the tone not only of business, but of political, morality is much below the standards of private life."

The last way that we shall discuss in which the corporation affects the interests of the public is in reference to stock manipulation. This is a matter of most far-reaching consequences. Yearly millions of dollars pass from the hands of innocent investors to swell the coffers of those "on the inside" who either know how to manipulate the market, or else have knowledge in their possession from which the public is debarred and by which the "insiders" may profit. Too few are the corporations whose securities are listed on the stock market which issue financial statements from which the investing public can gain adequate knowledge for a safe investment. The stock market is continually subject to influences causing a rising or falling market which periodically seems to reach a climax in a panic. A panic, news of a bank failure, or sometimes a maliciously circulated rumor starts the price of stocks to falling. Those "on the inside" realize that the time to buy certain stocks is when after the stock market has been falling for some time it has about reached its lowest point. The small investor — the man who has invested all his earnings, accumulated after years of toil, or the woman who has gathered

together a few thousand dollars from dressmaking, or teaching, and put her all in buying stocks which she has every reason to consider safe — becomes frightened and sells for fear the price of the stock may even go lower. If they paid $50 a share, they may be glad to throw it on the market at $25 for fear of being compelled later on to accept $15. Meanwhile, those "on the inside," knowing the intrinsic value of the stock, from knowledge which they alone possess, and that its price is bound soon to rise again, are quietly buying all the stock that they can get their hands on. Stock that formerly sold for $100 they may perhaps buy in at $40.

Then the tide on the stock market begins to turn, and prices gradually climb up again. Sometimes it is the result of a general return of prosperity. Sometimes, on the other hand, a fictitious value is given to stock by paying dividends out of earnings that should have been expended for renewals and replacements, or through a padded balance sheet. An illustration for the latter is to be found in the case of the Asphalt Companies when the Audit Company of New York changed an apparent surplus of $758,000 to a deficit of $541,000. On a rising market those "on the inside" gradually unload their stock at double or triple the price and wait for the next falling market to buy back perhaps the same stock at a half or a third of its recent price. If one "on the inside" puts a million in stock on such a deal, it only requires a comparatively short time before he has two millions in its place.

If a corporation makes a million of profits in a year, the community has something to show for it in the line of railroads built, bridges constructed, houses erected, or food produced; but if those "on the inside" make a million in a year, the community has nothing to show for it but a number of homes in which the security of old age has been wiped away and the present standard of living lowered.

The corporation has come to stay, its advantages are many and great, but so also are the evils to which it has

given rise. Only an aroused and intelligent public opinion which can first dispassionately and scientifically diagnose the disease can hope to afford us an effective remedy. We need first light and then a constructive programme.

TOPICS FOR CLASS DISCUSSION

1. Should the government attempt to regulate the price when a monopoly is shown to exist?
2. How would the effects on society be different, if prices were reduced by better organization and the prevention of waste?
3. Is it good public policy to allow a trust to charge different prices for the same commodity throughout the United States, irrespective of the question of transportation charges?
4. What are vested rights? Do they ever stand in the way of progress? Examples.
5. What is a panic?

CHAPTER XXXIX

ANTI-TRUST LEGISLATION

THE history of legislation framed to correct the abuses of monopoly power on the part of industrial combinations resembles the record of acts passed to curb the growing strength of the railroads already described in an earlier chapter. In both cases State action preceded federal action, and repeated amendments to the national law have been urged or passed.

The first anti-trust laws were those passed by the various States. Kansas took the lead by passing a law against business corporations in 1889. She was joined by a small number of States the same year. In the first half of 1890 three more States joined the movement. On July 2 of that year the demand on all hands for legislation became so pressing that the Federal Anti-Trust Act, popularly known as the Sherman Law, was passed. Since then many States followed the example of their sisters, and of the federal government, and passed anti-trust laws until upward of thirty legislatures had passed laws on the subject. These various State measures were similar in most respects in that they made persons engaged in any combination in restraint of trade liable to fine and imprisonment, and the corporations or firms punishable by loss of charter or of right to carry on business within the State where the offense is committed. The United States Supreme Court held that these laws, applied to any combinations, whether they formed a partial or complete monopoly, were equitable or inequitable. It is now pretty generally conceded that these State laws failed in

being too drastic. If they had been enforced to the full letter of the law, much business would have been paralyzed.

The Sherman Act of 1890 declares that "every contract, combination in the form of a trust or otherwise, or conspiracy in restraint of trade or commerce among the several States or with foreign nations" is illegal, and that "every person who shall monopolize, or attempt to monopolize, or combine, or conspire with any other person or persons to monopolize, any part of the trade or commerce among the several States or with foreign nations, shall be deemed guilty of a misdemeanor, and on conviction thereof shall be punished by fine not exceeding $5000 or by imprisonment not exceeding one year, or both said punishments in the discretion of the court."

Because the legislative authority in the United States is organized on a dual system of national and State sovereignties, the Sherman Anti-Trust Act, although intended to prevent industrial combinations, has been only in rare instances applied to them, but frequently to railroads and trade unions. The notable instance of this latter was the suppression of the Chicago Railroad Strike in 1894, under the provisions of the Federal Anti-Trust Act. This peculiar situation arises from two facts: first, that under the Constitution of the United States Congress has control over commerce between the States. Interstate commerce is interpreted by the United States Supreme Court as "intercourse and traffic between the citizens or inhabitants of different States," including "not only the transportation of persons and property and the navigation of public waters for that purpose, but also the purchase, sale, and exchange of commodities." By the terms of the Constitution the States are debarred from any attempt at the regulation of interstate commerce.

Second, that under the Court's definition of interstate commerce, the business of manufacturing is not included. In so far as the trust is usually a manufacturing concern,

this important part of its activities comes under the jurisdiction of State authority. As engaging in interstate commerce, the trust is amendable to the federal government; as a manufacturing concern it is amendable to the State only in which it is located. This situation makes it almost impossible for Congress to exercise any efficient control over the trusts. The interstate commerce in which they are engaged and over which the Constitution gives Congress control, may be so carried on as to evade practically any prohibition that Congress could make without putting a serious check on all interstate commerce.

The States, on the other hand, are almost as powerless, for although they can control the manufacturing of trust products within its domains, they cannot prevent trusts organized under the laws of other States, and having their plants outside the State, from shipping their products into the State. If they attempted this they would be interfering with interstate commerce, which is strictly prohibited by the Constitution of the United States. Furthermore, outside the question of legality, any plan of control which rested on State action would probably have the weakness of a lack of uniformity. A chain is no stronger than its weakest link, and so any series of laws passed by the various States would be no more efficient than the regulation in the weakest State. This is at present a problem that has not yet been solved. A State may so liberalize its corporation laws as to afford a veritable asylum for certain trusts; it may even authorize the corporation to do business in every State in the Union except its own, and the other States are powerless to keep out its products, for such an attempt would constitute an interference with interstate commerce. The States with the most indulgent policies have been New Jersey, Delaware, and West Virginia. The usual inducements which are held out consist of light incorporation fees and taxes, the absence of specifications as to character of business or amount of capital stock. About 95 per cent of

existing corporations hold charters granted by one of these three States. Such is the present condition of trust control, or rather lack of it, with the exception of the important step forward which was taken when the Department of Commerce and Industry was created in 1903.

This new departure in the line of corporation control aims at connecting certain trust abuses through publicity. Under the above-mentioned department is the Bureau of Corporations which is charged "to make diligent investigation into the organization, conduct, and management of the business of any corporation, joint stock company, or corporate combination engaged in commerce among the several States or with foreign nations, excepting common carriers . . . and to gather such information and data as will enable the President of the United States to make recommendations to Congress for legislation for the regulation of such commerce."

At the head of this bureau stands the Commissioner of Corporations, who is authorized to subpœna witnesses and to examine whatever books and papers of the trusts are necessary for him to carry out fully the functions of his office. Among other things which this new department of government has accomplished have been a Report on the Beef Industry, and also the quite recent official investigation on the Transportation of Petroleum.

It may not be out of place to note that the field of possible future legislation is narrowed down to three distinct propositions. First, there is incorporation under federal law. Such a law would have to be purely voluntary, but it is held that enough inducements in the line of legal privileges and immunities could be held out to cause all future corporations to take out federal, instead of State charters, and to cause many now incorporated under State laws to change their charters. The second plan is similar to the first. It proposes a federal franchise or license for permission to engage in interstate commerce. Prohibiting

such commerce to all unauthorized corporations would practically bring all those of any magnitude under federal supervision.

The third plan proposes reasonable publicity. The advocates of this plan see in publicity a means of revealing the existence of abnormal sources of income, or other conditions now kept from the investing public. The establishment of the United States Bureau of Corporations has been a step in this direction. Many feel that the work in this direction should be extended, and that the information gathered by this bureau should, within reasonable limits, be open to the public as well as to the President of the United States. One thing is certain, to the future belongs the task of passing laws that are adequate to solve the momentous questions which the corporation and trust have brought us.

BOOK VII

CHAPTER XL

MUNICIPAL MONOPOLIES

THE study of monopolies includes those based on natural resources or the monopoly advantage of location. In this respect, the transportation, water, gas, and electric companies (as well as others of a similar nature), producing a form of finished product for instant and continuous use, afford examples of a particular kind of monopoly found in urban centers, and are conveniently labeled municipal monopolies. These possess many of the characteristics of the ordinary capitalistic monopoly, but in many ways striking differences will be noticed in their processes and growth. For instance, the capitalistic monopoly may have no direct connection with government procedure or politics, and it may in no way be affected by migrations of people from place to place. But in the case of the municipal monopoly, the admixture of the economics of the problem with the political aspect of the monopoly as a public service corporation, is usual and quite apparent. And in investigating the nature and influence of this particular kind of natural monopoly, it is necessary to realize the relation of the monopoly itself to the municipal government in order to make a clear and comprehensive analysis of the problem.

The municipal monopoly will, therefore, be studied from two points of view; the purely economic viewpoint, involving financial questions of profit and loss, cost of production, etc., and the more social viewpoint looking to questions of constantly increasing utility and social progress. The investigation will include in detail only transportation,

water, gas, and electricity, for though there are other industries within the limits of a municipality which might be classed as such (as public baths, abbatoirs, milk depots, etc.), these four will illustrate quite comprehensively the method and problems of all and give the student the necessary viewpoint in connection with the whole problem.

The essential difference between a capitalistic and municipal monopoly lies in the peculiar relation of the latter to the public, and also in the conditions under which it exists. First, the public has come to be dependent upon a transportation or water company for its comfort and progress. Secondly, substitution in purchase can be made with difficulty, if at all. And thirdly, competition is practically impossible for the efficient administration of a municipal public service corporation (a fact easily proved by experience). These three elements of contrast must be fully emphasized in order to understand problems coming up from time to time in the discussion. In addition, the relation of the public service corporations to the city taxpayer and the influence of the various industries on the growth of population and standard of life, brings to view some distinctly peculiar characteristics in this form of monopoly.

It is seen, therefore, that municipal monopolies, as a rule, evolve from natural conditions and aggregations of population, and they become by their very nature clothed with a public interest. Their relation to the standard of life is readily seen in problems of housing, distribution of population, sanitation, recreation, and the division of labor. For example, the opening up of new streets and outlying city districts and the connecting of urban with suburban regions by the transportation companies, influences not only population in its growth and distribution, but also affects values in real estate, causes readjustments in the uses of land, and makes for greater extension of business circles. A more extensive and imperative use of water not only for drinking purposes but also along the lines of sanitation and fire pro-

tection, makes possible the solution of many problems of health, safety against conflagration, and a higher standard of life through cleanliness. Gas and electricity, in addition to the comfort of illumination in the home, have assured us a more efficient police protection, increasing consumption of cooked foods through the use of gas and electric stoves, and the extension of productive enterprises by electric power.

But mixed with these elements, distinctly characteristic of municipal monopolies, are such factors as profits, over capitalization, cost of production, efficiency of service, and quality of product. These in turn must engage the attention of the student, and will serve to show not only the points of similarity with the capitalistic monopoly, but also the points of contrast. For instance, the cost of production plus a reasonable profit, as represented in the case of a transportation company by the rate of fare, may be estimated by the company in precisely the same manner as by any other public monopoly. But an increase in the price to the consumer (the price also being represented by the rate of fare), cannot be made according to the law of monopoly price; for the public being dependent upon the company for the product (and there being no competition), demands legal or other regulation in lieu of substitution or deprivation. Over-capitalization in the case of a capitalistic monopoly does not necessarily result in lasting inconvenience to the consumer, for he may substitute; but a municipal monopoly paying high dividends on watered stock will either offer its finished product to the helpless public at a higher price, or at a lower standard of quality.

The history of municipal monopolies is in general the history of all. An original period of private enterprise aided by public privileges saw the rapid rise of small industries to large corporations amid great public enthusiasm and no regulation. This was followed by an era of monopoly control of city legislatures and city officials, when franchises

were not asked but demanded, and when vast private fortunes were amassed through the operations of corrupt and inefficient corporations. Then came the time when public sentiment became aroused and regulation was attempted; the concept came to be realized that a municipal monopoly is also a *public service* corporation, and as such is invested with a public interest. The relation of the public service monopoly to the city government has had a marked influence on its methods and growth, especially in recent years, and much of the corruption and maladministration is the direct result of political bargaining between municipal departments and private interests.

In summing up the main features in connection with municipal monopolies, it is apparent that the most important points needing emphasis are: the dependence of the public as a consumer, the resultant public interest attached to the monopoly, and the social effects of the monopolies on the daily routine of urban inhabitants, as evidenced in the problems of distribution and standard of life. The following chapters will take up in some detail the problems of transportation, gas, water, and electric companies, and it is largely left to the student to apply facts and figures to the concepts already laid down.

CHAPTER XLI

TRANSPORTATION

TRANSPORTATION within a municipality includes conveyance from place to place by the aid of vehicles of some sort, — such as busses with either horse or mechanical power; horse, cable, electric, or steam cars; and ferries of various kinds. The very nature of the business assumes a monopoly, since competition between street railway lines has been not only non-regulative, but actually destructive, and because it is practically impossible to grant more than one right of way over the same highway. This monopoly must exist under a grant of public privilege. The State gives to the city the right to make a contract with private or public interests for the right of way over certain streets, and to own and operate a plant for the purpose of conveyance. This contract is called a "franchise" and is usually made for a limited time (the average term being from twenty to thirty years). The franchise may impose few restrictions on the company in the way of repair of streets, quality or cost of service, or payment to the city for the right to operate. On the other hand, it may compel the company to make large payments to the city treasury for its franchise in addition to a periodical reduction in fares or in increase in the quality of service. Upon these specifications, regulation from without is based.

A street railway company is generally a State corporation, owned or leased by individuals or private interests (except where municipal ownership and operation exists), holding a franchise from the city government and operating lines of

cars over certain streets or rights of way within or adjoining the municipality. The problems of profit and loss, capitalization, bonded indebtedness and interest, common to business enterprises in general, are also evident in this case. The initial cost of the plant, added to the payments to the city for the franchise, plus a profit to stockholders, is the basis of the rate of fare. Deterioration of plant and fixtures occurs as in any other industry, entailing the necessity of a depreciation fund which may or may not figure in the basis of cost, according to the nature of the administration of the company. Extension of lines to outlying districts, the supplying of new and more modern cars with the increase in population and progress, and the constant change in operating methods, due to invention and improvements, are all elements in the cost of service which must be taken into account. In addition, the apparently simple privilege extended to the public of free transfers may entirely eliminate any possible profit to the stockholders and force the company to offer at the same time a poorer quality of service in the way of antiquated cars, roadbed, and personnel.

On the other hand, the history of street transportation has been in many respects identical with that of the railroads. Early grants without sufficient compensation to the public or without effective restriction as to regulation were made by municipalities eager to obtain the convenience of a transportation service, which was offered on apparently reasonable terms. With the growth in population came the demand for a more efficient service. At the same time, investors and promoters had found a rich field for their money and were reaping tremendous profits in dividends. Corruption became common in the attempt to secure franchises. Over-capitalization and top-heavy bond issues forced some companies into bankruptcy and others into consolidation with competing lines. Dividends on watered stock remained high while huge rentals were paid by leasing com-

panies for subsidiary lines. As a result the public suffered from poor service as well as no diminution in fares, while stockholders effectively smothered attempts at regulation or reorganization by the bribery of councils and city officials, and the shrewd use of financial reports which failed to show the true business methods of the company. Consolidation of competing lines, either through actual purchase or leasing, has progressed, until almost every town and city has now one complete system, built up of short lines and operated under one management. The evolution of the merging of subsidiary companies and the dependency of the public on the transportation system has given to the industry all the salient features of a monopoly.

The development of municipal transportation has been more rapid in this country than in Great Britain or Europe. The first street-car line was operated in 1859 in Baltimore, although Philadelphia had passed an ordinance in 1857 for the construction of car lines. By 1880 there were over 2000 miles of trackage in the United States, including horse and cable cars. The change to electric power did not come before 1886, but by 1890 there were 144 electric lines. Besides these, there were 48 cable roads and 597 street railways of other kinds. In 1898 the trackage had grown to 16,000 miles, with a total of 1074 lines, of which over 900 were operated by electricity. The marvelous growth of street railways in this country may be shown in a comparison with the steam roads as to the frequency of travel and income. For instance, in 1897, the frequency of travel on municipal lines compared to railroads, was as five to one; the net income per mile of the former was also much greater. By 1902 the trackage in the United States was nine times greater in amount than in Great Britain, and the contrast was even more striking in comparison with Germany, France, and Italy. One reason for the slower growth in Great Britain is undoubtedly the preference for the city omnibus which operates more successfully over the narrow crowded streets

of the British city. In addition, the difference in relation of the continental city to the State as compared with the American municipality, explains the more deliberate and conservative methods of the city in England and Europe as to questions of franchises and regulation.

On account of lack of competition and stability in kind of product, great administrative or executive ability has not been necessary. Owing to public ignorance and the consolidation of all competing lines, the property became so safe that investment was considered gilt-edged and net earnings at times reached the total of 25 per cent on net cost of duplication. Dividends of over 30 per cent were paid on common stock and over-capitalization became a common procedure. Elevated roads and subways soon merged with the surface lines, thus preventing reduction in fares. Finance and politics were injudiciously mixed, and whole systems were recapitalized, reorganized, and renamed to furnish profits to promoters. As an illustration, one of the largest cities in the United States possesses an inefficient transportation service which is actually unable to meet public demands and which would be financially embarrassed if the courts or the city applied strict regulation. Built up of small lines, the holding and operating company pays high dividends to original stockholders, in addition to bond issues in return for leasing them. It is a crippled, corrupt, and certain monopoly which must be kept alive or the people loses its conveyance and convenience.

It is thus apparent that monopoly in street transportation was strengthened, especially in this country, by the system of granting franchises, in the eagerness of investors to place their money in that industry yielding the highest rate of interest, and in the corruption resulting from too close association of city administration with the private companies. Of late the franchise is being more carefully considered and the term shortened to allow for more strict regulation. The public is demanding more publicity of

methods and accounts. Better service to meet changing conditions is being insisted upon, as well as the extension of lines to the ever widening boundaries of the city. The question of reduction in fares has come to be a legal one, since it involves possible deprivation of property. Bids for new transportation lines are now being made on the competitive basis, nvolving such specifications as annual payments to the city treasury, low rate of fare with transfer and other privileges, or guarantee of improved service from time to time to meet municipal progress. Both here and abroad, investigation and regulation are now more or less common, not for the purpose of reviving competition or changing the methods of the business, but in order to insure to the consumer a reasonable service at a reasonable rate of fare. We cannot expect the transportation system to be anything but a monopoly under present city conditions, and therefore many of the present methods of regulation employed in the case of the capitalistic monopoly are unwise and futile. But free publicity of business methods, strict regulation by the public authorities to insure better service and reasonable fares, and the growth of lines to meet the problems of distribution in population, — all these are logical and necessary.

From a social viewpoint, the transportation system has done the municipality great service. As in the case of the steam railroads, it is extremely doubtful if such rapid development would have been made, provided public grants had been as carefully considered as at present, or if franchises had been limited to the modern short term of years. For investment is made, not only in a business with large opportunities for development, but also in one that will be safe during the lifetime of the investor. And a twenty-year franchise, with its regulative restrictions and specifications, does not offer chances for the reaping of profits like the original long term grants, with no restrictions, and coming at a time when stock inflation, watering, and spurious

accounting were looked upon as legitimate methods of finance. This rapid development of street-car lines has resulted, not only in added convenience and comfort, but also in a more equitable distribution of population by allowing the laborer to live in open, sanitary parts of the city instead of in the warehouse district. As a consequence, many cities have now no real tenement-house problem since the poor are offered better living accommodations in outlying districts which they can accept on account of surface, elevated, and subway service. The problem of congestion is being solved by the transportation system, not intentionally by the companies themselves, but none the less surely. The presence of interurban electric roads brings neighboring towns into intimate association; suburbs are formed becoming easy of access; the city expanding in population does so along the line of least resistance (that of area); city boundaries are changed, adjacent villages are annexed, and the real estate agent bargains with the farmer to change the farm land into new streets and squares, where in a short time the human overflow will drift to settle down in modest homes miles from work, but nearer than the workers of fifty years ago without the transportation system. Then, too, the means of communication has not failed to influence business life. Ability to travel quickly has made possible the separation of factory and office. Manufacturing plants are no longer concentrated in certain well-defined districts, but are erected at varying distances from the business area. The carrying of farm products has already begun; mail and small parcels are transferred with ease and rapidity. Besides all this the growth of the electric service means the gradual elimination of horse power and with the passing of the animals from the streets comes a cleaner and healthier municipality.

In conclusion, it may be said that the city transportation system, as an illustration of a municipal monopoly, presents many points of interest not found in the ordinary capitalistic

monopoly. The cost of production is based on the elements of operating expense, franchise rental to the city, profit to stockholders, and depreciation fund. Operating expense may be divided into the common elements of cost, including labor, materials, repairs, etc. Payments to the city are based on either gross or net earnings of the company, to be paid annually or in lump sums. (This is, in most cases, supposed to be a sufficient remuneration to enable the city to purchase the plant at the end of the franchise.) Depreciation funds are not necessary of analysis, and the question of profits involves the student in questions of municipal government and extraneous regulation, neither of which needs to be discussed in detail. Looking upon the system as a whole, it is intrinsically a monopoly, and must remain so in the interests of convenience and efficiency, under present city conditions. The public is dependent upon speedy and adequate conveyance, and competition is impossible. Problems of distribution and housing can be solved by the proper development of street railways, coincident with municipal progress. Better and more easy communication connotes greater comfort, a better division of labor, a higher standard of living, and an increased business development. The questions of tremendous profits and fictitious capitalization are capable of solution by State or municipal regulation, and the solution depends on a sound business basis of administration and a clearer conception of the status of the transportation system.

TOPICS FOR CLASS DISCUSSION

1. Contrast several large cities in regard to the effect of the transportation system on distribution of population, opening up of new areas, and the division of labor.
2. Illustrate concretely the inevitable merging of competing lines within a municipality.
3. Diagram the elements of cost in a transportation system.
4. What is the best method of regulation?
5. Is the transportation system essentially a private industry?

CHAPTER XLII

WATER

THE discussion of the transportation problem brought out many of the general characteristic features of municipal monopolies, and therefore some of the points of interest in the question of water supply will be touched upon only with passing comment, details being reserved for those features peculiar to this particular industry.

Water is an essential to human life for several purposes. As human beings form growing communities, the uses for water increase in number and intensity. Formerly, natural springs and streams were made use of by mankind, and in order that a plentiful supply be obtainable, cities were located along rivers, bays, and mountain streams, and each citizen helped himself from the common spring or fountain for drinking and bathing. Later on, individual wells were dug for reasons of convenience, and rude systems of open conduits built to supply public baths, fountains, and gardens. In the Middle Ages, the utter lack of any adequate city water supply resulted in filthy streets and houses, engendering disease and death. Since the installation of water mains for running water, mankind has discovered important relations between an efficient municipal plant and the social problems of comfort, cleanliness, health, safety, mortality, and civic beauty. Flowing water in buildings for drinking, washing, and plumbing has increased our comfort, cleanliness, and health in no small way. High pressure hydrants stationed throughout the city have made for an efficient fire-fighting system, such as was not possible a century ago.

The installation of public baths, swimming pools, and park fountains brings a ready supply to the poorest and insures greater cleanliness, which in turn influences the mortality rate. The modern municipal street-cleaning department now uses vast quantities of water for flushing the dusty streets at night, and parks and public gardens are kept grassed and flowered even in dry seasons.

These facts argue for water as an economic public necessity. Being such, it must be in abundance and of pure quality. Moreover, the supply must at least equal the demand. Every day sees new uses to which pure running water is put, each year new streets mean the construction of new mains, the installation of additional fire hydrants, and the increase in pressure at the central power house. As civic pride grows, more water is necessary for the cleaning of streets, public buildings, and private houses, as well as for baths, fountains, hydraulic power, and commercial uses. A water company has a most complete monopoly in a municipality, since the dependence of the public and the absence of an adequate substitute forbids conditions where price might naturally fall to a minimum with the quality at a maximum.

What are the two essential elements in the problem? First, an abundant supply of pure quality and at a good pressure; second, the cost to the consumer. The discussion of the first involves the student in the more or less social questions of the standard of living, safety, and mortality. But in addition, certain interesting phases, such as the origin of supply, kind of pressure, and determination of quality, are of the utmost importance, for upon them the adequacy of the plant is based and the cost to the consumer largely determined.

The supply depends on several conditions, namely, proximity to a body of water, engineering obstacles, and size of the municipality. An inland community might find it difficult to procure an abundant supply of water for its needs, because it is situated far from any river or watershed. Or

the carrying of the water for even short distances may entail vast engineering processes. The growth in population, too, bears a relation to the supply, since a stream which provided for all needs fifty years ago is now inadequate for the same municipality under present conditions. Invention and improvement now assure several forms of supply: the carrying of pure spring water for great distances by means of conduits and aqueducts, the accumulation in standpipes and reservoirs, and the modern system of filtration plants where water from rivers or other streams is passed through filter beds and on to the city mains by means of high pressure. Pressure may be by gravity in cases where the natural supply is above the city and where artificial reservoirs are elevated; or by pumping, in which case a constant stream is forced through mains and pipes, to be increased at will according to the demand. The determination of quality is of special importance in reference to the mortality rate, as typhoid epidemics are now easily and directly traceable to an impure water supply. The quality of the water also affects the washing of clothes and the cooking of foods. Filter beds are now considered as an essential part of a plant, since running streams suffer from factory and other pollution. The many devices for water sterilization and the widespread use of bottled spring water show to what extent the public insists upon a high quality of purity under present city conditions.

Turning to the second element in the problem, that of cost to the consumer, it will be seen that the discussion is based largely on the question of municipal taxation. It is not necessary to go into an analysis of taxation in detail, but a cursory glance at the main features will show the points of contact. The consumer, as a householder or tenant, is also a citizen, and as such pays certain fees to the municipality for services rendered in the form of taxes or rates. The water tax is supposed to represent a per capita assessment for the payment of water used by the municipality. Whether this tax includes payment for fire protection and street wash-

ing depends on the method of taxation. In recent years water meters have been widely used, being installed in individual buildings and affording a more accurate measurement of the per capita assessment. But as this payment would not include water for general municipal purposes, the ordinary tax rate would have to be increased by an amount necessary to pay for them. The water rate is high or low, depending on the cost of production, the method of taxation, the use of meters, and the amount of profit to the water company. The cost of production is computed in a similar manner to the cost of production in a transportation company, and the ease with which an abundant supply is obtained and the necessary processes for filtration are two important factors in the estimate. But the question of cost, looked at from either the standpoint of the meter rate or that of the ordinary tax rate, is affected largely by the status of the water company within the municipality, — in other words, whether it is a private concern or one owned and operated by the city itself.

The supplying of water in a public manner came in about the middle of the seventeenth century in America, though prior to this some English and European cities had waterworks on a more or less simple scale. The early American plants were operated on the gravity principle from small reservoirs fed by springs, and it was not until 1761 that the system of pumping was tried. At the time of the Revolution there were only three water companies, and by 1800 the number had grown only to sixteen. With one exception, all were owned and operated by private interests. With the rapid development of urban life came the demand for a central supply, and as franchises were easily obtained and capital was eagerly seeking investment, promoters grew rich on the profits of the private water companies. By 1898 there were over 3000 plants in the United States (both private and municipal) and about 150 in Canada. The era of most rapid construction came in the last quarter of the nineteenth

century. From a monopolistic viewpoint, the English and European cities lack interest as illustrating the history of the rise of waterworks, as they early turned their attention to municipal ownership and operation, and the development of private plants was correspondingly dwarfed. But the history of waterworks in this country is marked by many of the features of the capitalistic monopoly, — the firm belief in constitutional protection to private property and the lax business methods of the early municipal authorities. Besides these features, the reluctance of the municipal government to venture into the operation of the different social industries, such as transportation, gas, and water, was a strong factor in the giving to them protection for the monopoly. Since 1890 the concept of municipal operation has gained much ground, and the change to a greater protection of the public as against private interests is slowly but surely being made. Inasmuch as the problem of municipal ownership and operation is to be analyzed in a later chapter, further discussion seems at the present unnecessary. But it must be understood, however, that in computing the cost of water to the consumer, who is at the same time a citizen, the estimate radically changes when municipal ownership and operation prevails. For example, the property tax is usually eliminated (though of late in Great Britain municipal monopolies pay property taxes to the State) profits can no longer be considered as part of the cost, and franchises do not need to be purchased. In this case, the burden may then fall on the consumer in the form of a general municipal tax, a fraction of which represents, not only the payment for water actually used, but also for fire protection, clean streets, and other municipal comforts.

Several points of interests may be emphasized in summing up the problem of municipal waterworks. It is impossible to provide abundant, pure water free of cost, and as yet no substitute has been found. As in the case of transportation companies, competition is ruinous and impossible, —

therefore, an absolute monopoly of location exists. The cost to the consumer is governed largely by local conditions, varying with the section of the country and the ability to procure the necessary supply, — therefore, a universal standard of cost is not to be found. With the increasing aggregation of population come new uses for water and new problems, social in their character, having their origin in the relation of the water supply to our needs of comfort, health, and protection. And along with the economic side of the problem is found the political aspect of municipal taxation, which represents the usual method of payment (especially in cases where the plant is municipalized), and which illustrates the peculiar relation of this particular form of monopoly, not only to the municipality, but also to the citizen as a consumer.

TOPICS FOR CLASS DISCUSSION

1. State some economic results coming from an adequate water supply.
2. Give concrete illustration of some municipal water supply, estimating cost of production in detail.
3. Should water be free?
4. Should profit accrue to a water company?

CHAPTER XLIII

GAS AND ELECTRICITY

THE study of the problems of transportation and water has brought out the general monopolistic features of those industries vested with a public nature. The reasons for being a monopoly were found, in the main, to be common to all. The inevitable death of competition through the advantage of location or merging was remarked upon, and the status of the company as a public service industry reasonably fixed, so that a clear conception of its relation to the city might be gained. It therefore seems unnecessary to state many of the principles already emphasized, and though the gas and electric light companies afford excellent illustrations of the operation of municipal monopolies, the present discussion will treat in detail only those phases of monopoly peculiar to them alone.

Gas as an illuminant was used only shortly before the beginning of the nineteenth century. Philadelphia was partly lighted in 1796, while several other cities both here and abroad had already made use of natural gas. But it was not until after the year 1800 that artificial water-coal gas was manufactured in practical commercial quantities and its use became a common thing. A private company was chartered in London in 1810, and both Manchester and Glasgow obtained plants in 1817. An offer was made in 1803 by private interests to the city councils of Philadelphia for the lighting of the streets at night. By 1835 the use and manufacture of artificial gas had become a regular municipal industry, and the illumination of at least the larger towns and

cities was considered essential. As in the case of the transportation and water companies, little effort was made to protect the public interest, and, in consequence, gas franchises were obtained with no restrictions as to time or regulation. Both in Europe and the United States, the manufacture of artificial gas for public use began before the tide of municipal ownership and operation had set in. This, of course, gave private initiative no check and allowed for a *laissez faire* policy which helped the promoting of over-capitalization and high dividends at the expense of exorbitant rates to consumers for gas of a poor quality. As a result, when a change to municipal ownership has taken place, it has been almost invariably by the purchase of the private plant and not by the erection of a new one by the city.

Both illuminating and fuel gas are usually manufactured within the municipality and passed through underground mains and pipes to street lamps, private dwellings, and public buildings. An abundant supply, of good quality for illumination and at a good pressure, is necessary for comfort. Though the supply may often be abundant, the quality may be poor or the pressure low. Mains and piping may be worn and leaking. Burners may be installed which smother the flame so that more burners must be lit to obtain sufficient reading light. Devices are only too common for cutting down operating expenses at the expense of the consumer, and thereby increasing the profit which goes into the pockets of stockholders. The history of gas works shows that the consumer as an individual has been largely unprotected, and even the advent of electric lighting has not destroyed the monopoly of the gas company. For instance, a gas company is able to manufacture a good quality of gas at sufficient pressure for illumination at about thirty cents per thousand cubic feet. Now, taking the gas rates as they are at the present time, it is obvious that enormous profits are made. One authority states that east of the Rocky Mountains gas can be manufactured and sold at a profit on the structural

value of the plant for seventy-five cents per thousand feet.[1] Many gas companies do not manufacture their own supply, but buy it from other companies at rates ranging from forty-five to sixty cents. Generally speaking, gas is sold to the consumer in large cities at the present time for about one dollar per thousand cubic feet. A number of attempts in recent years have been made to compel the companies to reduce the rates, but it has been found by the court that a sudden reduction in price would affect the value of the holdings of innocent stockholders. It can therefore be safely assumed that many of the present companies are heavily over-capitalized and the difference between the cost of production and the price paid by the consumer is monopoly profit. One of the oldest of the American cities with a present population of over eighty thousand constructed its plant in 1852 (which was taken over by the city in 1867), and the price of gas was reduced from three dollars per thousand cubic feet to the present rate of one dollar. This reduction is partly due to the efficient management under strict municipal supervision and the consequent elimination of unnecessary profit; but in part it is also due to a fall in the cost of production owing to improvements and better business methods.

Looking for a while at the social effects of the use of gas both for illumination and fuel, it is apparent, first of all, that street lighting not only insures greater comfort and convenience to citizens but also greater safety. It is difficult to estimate the value of street lighting as an aid to proper police and fire protection, but no one will contradict the assumption that the inhabitants of a well-lighted city are better protected against burglary and incendiarism than those of the antiquated ill-lighted municipality. Since the introduction of gas into the home for lighting purposes, the householder lives in greater comfort and ease than ever before, public buildings are used to better advantage and

[1] Edward W. Bemis, *Municipal Monopolies.*

with less danger at night, office buildings need less attendance in the matter of lighting, and the use of fixtures connotes a convenience that our ancestors could not realize. The rapid, though fairly recent, growth of the gas meter system has made possible a reasonable check on waste as well as on the business methods of the gas company. Fuel gas for stoves and heaters is manufactured at a smaller cost and at a different quality. This makes possible greater ease and dispatch in the cooking of foods and permits of better living accommodations under the "flat" system. In addition we have a cleaner method of cooking and eating, allowing for the elimination of ashes and smoke, and keeping the house cooler in summer. Gas for commercial purposes, such as fuel for engines, etc., is also manufactured in large quantities and helps to solve the problem of a smoky city.

These facts merely show the present dependence on gas as a commodity. The citizen pays in his tax rate for street lighting, thus obtaining greater protection; in addition, he pays the rate demanded by the company for his illuminating and fuel gas, this rate being the cost of production plus an enormous profit from monopoly. It is impossible for the individual to protest effectually against the giving of special rates to certain favored individuals by the company. At times the pressure may be low or the quality inferior, — but in the absence of franchise stipulating a certain standard or providing for regulation, the private company can do as it pleases. The public is dependent on gas, as it is on water; the company has been allowed to take a position in which it can defy ordinary competition or the desire for substitution. If the franchise stipulates that the company shall light the city free of charge and keep street lamps in repair, it is reasonably certain that the gas rate to individual consumers will be higher by an amount necessary to repay the company for that expense. Then, too, the reluctance of the courts to vitiate the contract of the company with its stockholders often prevents any compulsory reduction in the price of gas

when the company is over-capitalized and the dividend so high that monopoly profits are necessary in order to avoid a reorganization by the stockholders themselves. Taking these elements of the problem into consideration, it is not difficult to understand the monopolistic nature of a private gas company within a municipality.

Electric lighting dates from about the year 1880, and by 1890 many of the larger cities, both in this country and abroad, had plants, either municipalized or operated by private interests. By 1899 almost 600 plants had been erected in this country alone, and the United States Census reported 3620 in 1902. In 1897 Great Britain had 121 electric light works, and Germany was not far behind in construction. But the movement everywhere, and especially in this country, has been most rapid in the smaller cities and towns; and on account of the fact that electric lighting came into use after the wave of municipal ownership and operation had started, a very large proportion of the plants were municipalized. In 1903, $22\frac{1}{2}$ per cent of the plants in the United States were owned and operated publicly.

Electricity, as a means of light, heat, and power, is more and more rapidly displacing gas. Its convenient individual management in private dwellings and buildings, its greater efficiency in luminosity, and its advantage in transmission all tend to make it preferable. Several interesting and distinct phases of the industry may be noted. For instance, electricity is not stored like gas for constant future delivery, but is produced instantaneously with the demand. It is seen that there is both a maximum and a minimum demand depending on the time of day, etc. The maximum demand determines largely the fixed charges (which include the items of rent, taxes, interest, and depreciation), and that part of operating expenses called fixed expenses. These fixed expenses embrace salaries, wages, and fuel. When the minimum demand changes to maximum, variable expenses are determined, for the output change affects increase or

decrease of labor, materials, fuel, etc. On this account, the usual practice is to give special rates to individuals or firms who regularly use a certain amount of current all the time. This method is analogous to the giving of discounts to large wholesale customers of an ordinary capitalistic monopoly. Abroad, rates are based on meter calculations, but in the United States the contract-discount system is still held to. This commercial lighting by the electric light companies is the most lucrative part of the business. Street lighting is usually done on low terms which compensate the city for a franchise tax. Arc lighting is only a small part of the commercial branch of the industry, and the real profit comes from incandescent private service and commercial power service.

Approximately the same principles can be applied to the industry of electric lighting as have been applied to that of gas. The same items in the cost of production may be found and the same illustrations of lack of competition. But because this industry is of such recent development, we find a more careful wording of franchises and a more strict regulation of the industry by the municipality. The large proportion of municipal plants all over the world illustrate to what extent the public has chosen to assume the functions of a business manager with regard to this new industry. As in the case of gas, new uses are constantly being found for electricity. The electric stove has now passed the experimental stage and will ultimately displace the coal range and gas stove. Electric house heating is not yet a practicality, but it promises to be one in the near future. The wire transmission of power and light connotes greater cleanliness, ease, and convenience than gas itself.

These two monopolies of gas and electricity are producing commodities that the world needs for its comfort and safety. It is apparent that they must be treated as monopolies; as such they are amenable to public regulation and cannot by the process of competition be made to produce an efficient product at a reasonable price. The concept of municipal

ownership and operation is merely the idea that the municipality shall manage and own a monopoly which shall be run on an ordinary business basis, for the purpose of furnishing the consumer with the highest quality of product at the lowest cost possible. A municipal monopoly is a monopoly, whether privately managed or municipalized, and it is destined to remain a monopoly under present city conditions.

TOPICS FOR CLASS DISCUSSION

1. What has been the economic effect of the displacement of lamps by gas or electricity in the home?
2. Is the electric light company a natural monopoly of location in the same way that transportation is?
3. Estimate the elements of revenue and expense in the case of a model gas or electric light company.
4. Procure figures to show the profits of the average gas or electric light company either in the United States or abroad.

CHAPTER XLIV

MUNICIPAL OWNERSHIP AND OPERATION

In the foregoing chapters certain industries were considered in the light of municipal monopolies. The monopolistic tendencies were analyzed and the results shown. But the industries were assumed to have been privately owned and operated, thus enabling the student to more easily class them with the well-known capitalistic monopoly and to show more clearly the nature of a private company doing a public business. In order to include all phases of municipal monopolies in the study of the problem, the principles and characteristics of municipal ownership and operation should be carefully understood and the history of the movement reviewed. The concept of municipalizing industries for public convenience is taking increasing hold of the minds of business men and administrators alike, and the fact that so many successful examples of the principle exist seems to point to its practicability as a working method of controlling municipal monopolies.

Municipal ownership and operation is simply the assumption of business functions by a municipality with relation to a certain industry. For instance, the franchise of the city gas works might terminate at a time of public disapproval of the service and the plant be taken over by the city and operated by a special municipal department or bureau. In this case, municipalization has taken place, and the relation of the industry to the city and to the consumer has radically changed. In ordinary business life changes and improvements of any kind are only made for the reason that greater

efficiency with less cost may result in production. To apply this principle to the problem at hand means that, if public industries are to be looked upon as amenable to business methods and ideas, the change from private ownership and operation to municipalization must assure to both city and citizen consumer alike greater efficiency with less cost. It will therefore be necessary to accept the burden of proof and use the two items, efficiency and cost, as criteria in order to accept the concept of municipal ownership and operation as a practical one.

Efficiency connotes abundance in supply, ease in transmission or conveyance, and comfort in use. When the citizens of a municipality turn to public operation for relief from inadequate service or high rates, they expect that the service shall improve for the very reason that the industry is no longer running on a profit basis, and therefore there need be no cutting down in operating expenses. The heads of departments are not hampered by the demand for surplus, and consequently there is no necessity for inferior materials, labor, or machinery. Again, a private company does not make extensions of tracks or mains unless it is to reap a reasonable profit. Under municipal ownership and operation, this conformation of the service with the ever widening city area is one example of greater efficiency, and in return for such invaluable social service rendered to the municipality, greater frequency and volume of travel is certain. When the inhabitants of a municipality are considering the operation of a street-car system or waterworks, the question naturally arises: Can the governmental authorities run the plant with the same or less expense and at the same time offer better service at the same rates? Part of the enthusiasm for municipal ownership is doubtless due to a pride in the management of a public enterprise, but a far larger part comes from the feeling that it is possible to obtain better service when the profit-making element is eliminated from the problem.

The item of cost is one that affords material for endless discussion. The opponents of this method of operation are perfectly certain that the rates are far lower under private management than under public management. Figures are accumulated to show that municipal ownership and operation involves the burden of bonded indebtedness, which must be borne by future generations. It is argued that municipal authorities are not businesslike in their methods, that waste occurs, that laxness in administration is the rule. Furthermore, it seems to augur failure that so many municipalized plants are operated by political henchmen who hold their positions through the favor of some boss. Under our present system of government, with its parties and political displacements, it would seem as if rotation in office was not helpful to sound business methods or results. But a few facts concerning the growth of this new idea will show the success or failure of the movement as a whole.

In Germany nearly every large town or city has municipalized the water supply, means of communication, lighting service, and even slaughterhouses and milk depots. The middleman is eliminated and the product sold at cost. Better service is obtained than through private operation, for the public feels itself responsible for the efficiency of the system. By 1880 the idea of municipal ownership and operation had gained so much ground in Great Britain, that only a small percentage of plants constructed since then were privately owned and operated. In 1906, 123 cities had publicly operated street-car lines and over half of the entire street trackage in that country to-day is municipalized. The extension of lines under city management has been over ten times greater than that under private control. With this has come greater frequency of travel, while the fares have been reduced on the average of one third. In comparing British gas service it is found that in 1906 the average municipalized gas plant supplied the consumer with a good quality of gas at less than seventy-eight cents per

thousand cubic feet, while the private companies charged slightly less than eighty-four cents for the same service. Birmingham has a sliding scale of from forty-four cents to sixty cents, and Manchester and Glasgow have rates of fifty-four cents and fifty cents respectively. There are at present over 270 towns and cities owning and operating their own plants and selling their product at a lower rate than that of the private concerns. In addition to a saving to the consumer, the municipal authorities in all cases have sought to improve the social conditions of the community through improvements in quality and by the use of slot meters and gas stoves. The development of municipal ownership and operation in the United States has been retarded by the reluctance of the State, in giving adequate power to municipalities for the owning and operating of public utilities. In 1906 there were twenty-five municipal gas plants and over a thousand electric light plants. Thirty large cities, of a population over 100,000, now manufacture their own gas, and considerably over half of the towns and cities own and operate their waterworks. In almost every case the cost of service is lower under municipal ownership and the standard of efficiency in many ways considerably higher. The municipalization of street-car lines has rarely been tried in this country, and therefore this industry affords practically no illustrations of value.

Taking the movement as a whole, the first result obtained is the financial gain due to elimination of private profit. Even in those cases where the cost of service remains the same after the transfer from private to public ownership, any surplus accumulated is turned into the city treasury to pay off the bonded indebtedness or to reduce the general tax rate; or where this is not done, better service is effected by the extension and improvement of the system. A second and more important result is the social betterment which has invariably come from municipalizing industries of a public nature. Great Britain and Germany especially testify to

greater civic spirit, greater cleanliness, reduced mortality, and increased comfort and safety. The public nature of the industry seems to demand public management. Being a monopoly, it is a question of either private or public operation. The evils of over-capitalization, exorbitant rates, and high profits are not coincident with public management, as shown by experience. In the matter of wages, too, ample material is found showing that conditions are preferable when the municipality is in control. The German cities each contribute from transportation revenues a definite annual sum, based on wages, which is used for the betterment of labor conditions. Comparing the rate of wages between municipal and private systems, it is found that wages are considerably higher under the former, while at the same time the length of day is shorter. Since the introduction of municipal ownership and operation, wages have risen about 50 per cent on the average, and labor settlements have been made with less friction and greater permanency. Speaking generally, politics play a small part in municipalization as a matter of fact, though it would seem as if political chicanery would naturally be present. The burden of taxation has been lightened for the reason that real estate values are affected by extension of service, living conditions are improved, and cost of service is reduced. A political advantage may be seen in the elimination of antagonism between private interests and the city government. Under municipal ownership and operation it is no longer possible for private corporations to control city councils.

While in Great Britain and Germany the change from private to public management was made to obtain better service at a lower cost, American experiences have grown out of dissatisfaction with extreme over-capitalization, enormous private profits, and corrupt connections of the vested interests with municipal governments. "As long as corporations inflate their securities and place a burden on the public in paying their dividends; as long as corporations

obtain franchises and capitalize them only to form mergers; as long as they seek special privileges only to evade the higher duties of honest public services — just in so long will it be necessary to understand that the municipality can and will get better and cheaper service by serving itself . . . and when the municipalities realize that the people know that they can serve themselves and are inclined to do so, the corporations will give the people the service they are entitled to. If the corporations do not learn this lesson, then they can only blame themselves if the people being ruined find a remedy in municipal ownership." [1]

Municipal ownership and operation is not a dream of a theorizing socialist, but a business proposition based on the concept of the greatest efficiency to the consumer at the smallest possible cost. It does not include the business concept of money profit to stockholders. Promoters find no opportunity for placing capital under such a system. Its most valuable returns are a more highly developed sense of responsibility in business management by the consumer as a citizen, the social betterment arising from greater extension of service to meet changing city conditions, and the standard that is definitely set by the public for the highest quality of product.

TOPICS FOR CLASS DISCUSSION

1. What are the strongest arguments against municipal ownership and operation?

2. Should the city government be allowed to become a business manager?

3. What would be the probable effect of municipal ownership and private operation?

4. Make a detailed analysis of the elements of cost of production of a plant, both under private and public management.

5. Would the increase in tax rate due to bond issues for the purchase of a public industry be a compulsory investment?

6. Should a municipalized industry show any profit?

[1] "Municipal Ownership of Lighting Plants," by Jos. Bondy, in the December, 1907, number of *American Municipalities*.

BOOK VIII

CHAPTER XLV

INTRODUCTION TO THE THEORY OF DISTRIBUTION

ECONOMICS may briefly be defined as a science whose subject-matter is Wealth. Chemistry deals with the elements and their various compounds, Physics with the laws of force and their many manifestations, Astronomy with the heavenly bodies, Biology with the laws of life. Each science has one central theme which differentiates it from its sister sciences and upon which the various subdivisions of that particular field of knowledge are built. In the science of Economics that central theme is Wealth.

We are fortunate in having a theme which hardly requires a definition. The difference between living in wealth and poverty is apparent to every lay mind. There can be little doubt as to what one means when he speaks of the wealth of the United States. One need only call to mind the poverty of India or the Sahara Desert and its meaning becomes clear. Wealth comprises all those things which make life worth while. With nations it consists of fertile fields, rich deposits of minerals, and forest-clad mountains. With individuals it consists of all those material goods which make possible a high standard of living. A miser hiding his gold and living in squalor does not suggest the economist's concept of wealth. Back of the concept of wealth stands that of welfare.

Thus far we have thought of wealth in only one connection, viz. how wealth is created. This division of Economics we have termed Production. It has been seen that there are three factors engaged in all production, — land, labor, and capital. We were logical, then, in discussing under the sub-

ject of Production all the means whereby any of these factors could be made more efficient productive agents; as irrigation, industrial education, and large-scale production.

We now come to the second half of the science of Economics, known as Distribution. It is essential to study the origin of wealth and how the wealth of a people may be increased, but it is equally necessary that one should know how this wealth is distributed, *i.e.* divided among the factors taking part in its creation. This will mainly be the theme of the book from here on.

Were we living in a much earlier age, we should need no theories of distribution, and Economics would be a much simpler science than it is. To primitive man the problem of distribution was easy of solution. Whatever he made was his own. There was a direct relation between his efforts and the rewards for those efforts. If he worked five hours, he received a definite return; if he worked ten hours, he received practically double the amount. The whole product was his own. There was no capitalist to be reckoned with, requiring interest charges, no landlord to whom rent must perpetually be paid. All was his.

A complication in this simple wage relation arises, however, as soon as man leaves the primitive condition of supplying all his needs and depends upon an exchange of goods with some of his fellows to satisfy some or most of his wants. But even greater complications arise when the tool owners become a separate class from the tool users, as is true in the organization of modern industry with its factory system.

The wage system of payment, along with these other complications in the organization of industry just mentioned, makes the subject of Distribution the most difficult as well as the most interesting part of our science. To a large degree, the field of Production has been cultivated so thoroughly that many of its truths seem axiomatic. The field of Distribution, on the other hand, is still in a somewhat experimental stage of cultivation. Economists of widely varying schools

of thought frequently differ in the fundamentals of this part of their science, and almost always in the applications they would make of even those fundamentals on which they agree. Of no science can it be more truly said than of Economics that the last word on the subject can never be written until the end of time.

In order that the student meeting the subject for the first time may not needlessly be confused, it has been the steady aim in these pages to present a consistent, logical presentation of but one viewpoint. This will at least have the advantage of greater simplicity than would otherwise be possible. A mastery of one well-accepted viewpoint will then afford a basis for an intelligent criticism or appreciation of opposing viewpoints.

In the first part of the field of Distribution we shall discuss the various theories which underlie the division of the fruits of industry. This will lead us into a discussion of the theories of rent, interest, profits, and wages, as "land" gets its share of wealth as rent, capital as interest, exceptional organizing ability as profits, and labor as wages.

TOPICS FOR CLASS DISCUSSION

1. In Economics why is the emphasis laid to-day on the subject of Distribution rather than on that of Production?

2. What idea lies back of the expression "distribution of wealth"?

3. What are the different methods by which people obtain their incomes?

4. How can a chair be said to be distributed to the labor and capital creating it?

CHAPTER XLVI

THE THEORY OF RENT

LET us picture in our minds two separate tracts of land in the great wheat-growing belt of the United States, each an acre in size. Every spring the two farmers owning them go out to plant their grain. They may use the same quality of fertilizer, the same kind of grain, and the same kind of plow, and have the same efficiency in their labor force. In the fall one farmer reaps twenty bushels, the other fifteen.

To what can we attribute this difference in yield of five bushels per acre? In all production there are three factors, as we have already seen, — land, labor, and capital. On these two imaginary acres the capital and labor were respectively identical. This being the case, there remains but the third factor to which we can attribute this extra growth of five bushels. That is land. This extra return of five bushels is the income which we can attribute to the better acre because of its superiority over the poorer one. In Economics such an income we term "rent."

Thus one sees that economic rent arises because "land" aids man unequally in production. In one place it yields fifteen bushels, in another twenty. If we are thinking solely of agricultural communities, this superiority usually takes the form of greater fertility, thereby giving higher rents for certain districts than for others. If, however, we are thinking of city land or truck-farming land lying adjacent to a city, the location becomes the chief cause of superiority and hence of variations in the amount of rent.

Again, let us picture to ourselves two retail stores of equal

attractiveness as far as the building and goods sold are concerned, and each with equally efficient management. One is located on the outskirts or edge of the business district, and the other is near the center of one of the busiest thoroughfares. At the end of the year the net profit of the one store may be a thousand dollars, while the net profit of the other is two thousand five hundred. To what, then, must we attribute this difference in earning power? Surely it cannot be accredited to labor, for in our illustration we assumed that in each case it was equally efficient, nor can it be attributed to the physical equipment of the stores, for again we have assumed an equality. The difference, then, can only be attributed to the third factor in production, namely, land. The income which we must attribute to this second store because of its superiority over the poorer we call "economic rent." In the first illustration of the two fields, the superiority in fertility gives rise to rent, while in the second, the superiority of location has the same effect.

These two cases, though hypothetical, clearly illustrate the underlying principle back of the phenomenon of rent, wherever found. The reader can readily see how in countless cases these illustrations would have to be modified to meet actual conditions. The amount of economic rent often depends on a combination of both fertility and location, and not, as in our illustration, solely on one or the other. This is particularly true when one is thinking of land used for truck farming where value is determined not only by its fertility, but also by its nearness to the city market.

According to his various needs, man puts land to a variety of uses. As far as possible he puts the land to that use for which it seems best adapted. The center of every city is inevitably turned over to the purposes of business; because centrally located, it is more useful to man in that capacity than in any other. Naturally he puts it to that purpose which yields the highest economic rent. Outside this district we find, roughly speaking, the circular belt of residence

districts, which, though they have not quite the high social value of the business districts, still play an important part in the use that man makes of land.

Beyond the confines of the city, stretching in many directions, it is not unusual to find a number of truck farms; while farther beyond lie lands devoted to general farming, and perhaps beyond that land given over to grazing. There may still be land lying beyond this which is least desirable for any of the uses to which man may put land, but which may serve to catch the overflow of population, or may be used by the less fortunate members of society who cannot fit into the industrial system, but who are willing to go out on this poor outlying land and work on it for a bare living. This last type of land has earned the name in Economics of "no-rent" land, which implies that a man working on it will merely get enough from his labor to allow himself his daily wage and to pay for the few simple tools and seed that he may need in cultivating it. Its fertility is so low, however, that when a definite return from the land is set aside to pay wages and the interest on the capital invested, there is nothing left to pay rent, hence the expression "no-rent" land.

Broadly speaking, that class of land which has the highest social value will yield the largest amount of rent, and of each class that land which is superior will yield the higher rents. Accordingly, all land used for business purposes yields a greater income than land used for residence purposes. This latter in turn yields more than land used for trucking, which in turn yields more than land used for farming, and again, farming land is more valuable than land used for grazing, which in its turn brings in a higher return than "no-rent" land.

It is apparent to all, however, that though this general scheme of gradation of the size of rents holds good, nevertheless there are many variations, and few or no two pieces of land in the same belt pay the same amount of economic rent. In order to make clear the general theory of rent, we

speak of the poorest land of each belt or class as the marginal land, and as receiving a marginal rent. It is obvious that if we take this poorest land as our basis, better land in the same class must pay a higher rate due to its superiority. This additional rate is called the differential rent; so that in theory all land which is better, to however small a degree, than the poorest land pays a rent composed of these two elements, a sum equal to the amount paid for the poorest land of its class, *i.e.* marginal rent, and an additional sum proportionate to its superiority over that land, called differential rent. The two together equal the economic rent.

To illustrate, one can imagine a piece of land just on the margin of the belt between general farming and trucking. It is the poorest land used for this purpose, and may yield a return of twenty-five dollars an acre, and half a mile nearer the city there may be a second farm which, because of its superiority, will have to pay an additional sum of ten dollars, making its rent, in all, the marginal plus the differential, or thirty-five dollars. Still farther in toward the city we can conceive of the very best land used for this purpose lying adjacent to the suburban district. This farm, being near to the city markets, will have to pay an even greater differential rent, perhaps of fifteen dollars, making in all a total rent of forty dollars. Going then farther toward the city, we immediately pass into the next belt in our illustration, the residential. The poorest land used for this purpose gives us the new marginal rent for that belt. It is obvious that the amount for this poorest or marginal land must be a little higher than the highest land of the next lower or trucking belt. If this were not so, the land would be put to truck farming again, because it would yield by that method a larger return. As a result, we have this general principle running throughout all the belts, that the marginal land of the next higher belt is always of a little greater value than the marginal land of the next lower belt plus its greatest differential value.

We thus see that the term "rent" as used in Economics is quite different from either "real" rent or rent as used in ordinary language. Economic rent is the income which must be attributed to land because of its share in production. It may be reckoned in so many bushels of wheat, or in so many bales of cotton, or in so many dollars. The characteristic feature is that it depends on its degree of superiority over the marginal or poorest land of its kind. In further contrast to rent as used in everyday language, the phenomenon of economic rent exists, whether the land in question is worked by a tenant or by the owner. All land gives rise to economic rent, except of course "no-rent" land, whether it is rented land or not.

On the other hand, by "real" rent is meant the amount of income actually paid by the user to the owner of the land. This amount is only an estimate of the economic rent,usually expressed in dollars and cents. It may be either greater or less than the economic rent. It is usually the latter. It is always paid for "land," and that alone, which is not the case with the term "rent" as used in everyday life where it includes the sum of money paid for the use of a house or factory as well as that paid for the ground on which they are built. In this respect the popular use of the term "rent" differs from both economic and real rent, as these are the returns for the use of a gift of nature, and not for the use of some product of man's effort, such as a factory, house, or store building. Money paid for the use of capital, whether it be in the form of a machine or factory building, is interest and will be discussed in a later chapter.

So far we have applied the law of rent to only one kind of "land," namely, the fields. It is, however, applicable to other forms of "land," as mines, water power, etc. For example, marginal water power would be the poorest kind of water power used for a certain purpose, as the running of a sawmill. A large and stronger stream, capable of being used for the same purpose, would yield a greater return of

sawed lumber. This additional income would be the differential rent. Were there a source of water power just strong enough that it would just pay for the machinery used in harnessing it and the labor needed in operating it, it would correspond to "no-rent" land and might well be called "no-rent" water power. Likewise, we can apply the same fundamental principle of economic rent to mines and other gifts of nature.

The phenomenon of "real" rent is a great equalizer. If a man is on poor land, he pays little or no rent; if on better, he has to compensate for his advantages by paying a higher rent; and if on still better land, a still higher rent. The problem of rent becomes of real significance when there is one distinct group of people who are the land users, and another group, the land owners, as is largely the case in the older countries of Europe, especially in Russia. As theoretic as the law of rent is, it is the basis of one of our economic programmes of reform, known as the Single Tax. Without an understanding of the principles underlying the theory of rent an intelligent discussion of Single Tax is impossible.

TOPICS FOR CLASS DISCUSSION

1. With whose name is the theory of rent most closely associated?
2. To what school of economists did he belong, and what were their main doctrines?
3. Give examples you have seen of a rise of rent; the cause. Of a fall of rent; the cause.
4. What is meant by the "law of diminishing returns" when applied to land?
5. Do the governments of other countries own land? Would it have been better for the United States to retain the ownership of its land instead of giving it away?

CHAPTER XLVII

THE THEORY OF INTEREST

THE subject of capital and its importance in modern industry has already been discussed in two previous chapters of the book. It now remains for us to inquire into the nature of its reward in the form of interest, much as in the preceding chapter we discussed the reward of land under the title of Rent.

Interest may be defined as a reward or premium that is constantly offered by the business world to those members of society who will save and invest their money rather than spend it. If one invests his money in stocks or bonds, the business world pays him this premium directly in the form of dividends or interest, at a given rate; if in a saving fund or a bank, then indirectly through the agency of the financial institution; but nevertheless it is the business world which really pays the premium or reward to those who turn their income into production goods.

In studying the question of interest three questions naturally present themselves. First, why need there be any premium called interest to induce people to invest their income rather than spend it, or, in other words, to allow the industrial world to put their income into capital goods (tools, factories, and the like) rather than to put it themselves into consumption goods (clothing, food, houses, and the like)? Second, what determines the size of the premium, *i.e.* fixes the rate of interest? If the rate varies from time to time, what is the cause of the variation? Third, from what source is interest derived — *i.e.* does the phenomenon of interest mean

that labor or land is being deprived of part of its share of the products of industry? Let us take up these problems in order mentioned.

First, why is any premium in the form of interest necessary to induce people to save rather than spend their incomes? The answer lies in certain facts of human nature. Man constantly undervalues the future as compared with the present. A present pleasure is always valued more highly than the same pleasure promised to us a year or two years hence. A dollar in our possession now is prized more highly than a dollar promised to us a year hence. This is true for a number of reasons. First, there is the question of uncertainty. We may never get the dollar a year hence. Life itself is so uncertain that we may not be alive a year later to claim the dollar. Then, again, the borrower may be unfortunate or dishonest, and not be able or willing to return the money at the agreed time. All these considerations will cause a lower value to be put on the dollar promised a year hence than put on the one already in possession. As the familiar adage expresses it, "A bird in the hand is worth two in the bush."

A second reason for valuing the present more highly than the future lies in the fact that a present dollar can yield an immediate pleasure, while the future dollar cannot, and pleasure at hand always looks greater than pleasure at a distant date. The object of desire is right before us if the dollar is already in possession. On the other hand, it requires a great taxing of the imagination to picture the future pleasure in anything like so rosy a light as the one before the eyes. Man inevitably prizes present pleasures more highly than those of the future, if for no other reason than that they are present. It is because of these recognized facts in human psychology that a bonus, or premium, must be offered to make the future dollar look as attractive as the present one.

We are now ready to take up our second question,

what determines the size of the premium or fixes the rate of interest? A present dollar may be valued more highly than a future dollar. Furthermore, in a choice between a dollar now or a dollar and three cents a year from now, the present dollar may still be chosen; but on the other hand, in a choice between a dollar now and a dollar and six cents a year hence, the latter amount may determine the choice. In this latter case the six cents was the premium which had to be offered to induce the saving. This is a simple illustration of interest at 6 per cent. So far we have considered the question of interest on an individual basis only. The same principle, however, is involved in determining the market rate of interest, for such a rate is really a composite of a number of individual rates. In each community there is a definite need for income to maintain the present organization of industry. Through competition among borrowers a rate is finally reached which will induce enough money to be accumulated in the aggregate to meet all the needs of industry in the community. The rate needed to accomplish this may be 6 per cent. If it is, it does not mean that no one would save if the rate were only 5 per cent, but that not enough would save at this rate to meet all the industrial needs of the community. Though some would probably value $1.05 more highly than the present dollar, still, as there may not be enough willing to save at that rate, the interest rate rises to 6 per cent. Of course, since this is the market rate, all will receive the same rewards for saving, though their individual valuations of the present and future may have varied greatly.

If, therefore, at any time the majority of the people value a present dollar more highly than $1.06 a year hence, then those in industry who desire to keep intact their supply of capital will have to raise the premium above six cents or go without the desired capital. At all times the premium must be high enough to cause a sufficient number of people to value the future more highly than they do the present.

Otherwise the capital of the country will not be kept up to the needs of industrial society.

We may generalize this by saying that as men naturally discount the future, a premium large enough to offset this discount must be offered. Whenever the current rate of interest exceeds the rate at which men discount the future, income will be saved and invested. The tendency will always be for the supply of capital goods to be kept at just that point at which the rate of interest and the rate of discount are equal.

There still remains for discussion our third question, from what source is interest derived? An answer to this is most pertinent to a discussion of interest, because it is often contended that interest is exploitation, that it is a form of robbery, taking from labor what is justly its due and giving it to the capitalist. This view, while popular, is hardly scientific. Of the three factors in production, land, labor, and capital, we speak of land and labor as being primary factors, and capital as secondary. The reason for this division is evident. Were either labor or land absent, no production could be carried on, while without the third factor, capital, production is possible. But while production is possible without tools, primitive man rapidly learned their value, and even with him production was largely threefold. With the progress of civilization has gone the increasing use of tools, until to-day our capital no longer takes the form of a few crude hand tools, but embraces huge buildings, intricate machines, and wonderful power engines costing vast sums of money.

Man has learned in the case of production that "the longest way round is the shortest way home," and so he finds it economic to spend months and thousands of dollars to make capital goods before he makes a single article of direct use to himself. He realizes that although the time between his first preparation for production and his ultimate consumption of goods may involve months, it pays in the long run, as by

this capitalistic method of production he will have more goods to consume and each at a lower "cost" per unit.

A farmer using, practically speaking, no tools, might get ten bushels of wheat to the acre, but he knows that it is worth while to spend some of his time in preparing capital goods, and so he makes tools for effective cultivation, prepares fertilizers, probably drains a marsh, and builds fences, with the result that in place of the ten bushels per acre that he first got, he now secures thirty bushels. This extra twenty bushels provides the fund from which interest can be paid without exploiting either labor or land. In this statement no claim is made that labor is never exploited by capital, but that the phenomenon of interest does not necessarily imply exploitation.

Before closing a discussion of interest there is one difference which one should note between the problem of interest as it existed in earlier times and to-day. Primitive communities lived in a world of deficit, where there was a scarcity of consumption goods and still less of capital. Under such conditions people had to be rewarded for the sacrifice involved in turning their incomes into capital goods rather than into those consumption goods which they could enjoy immediately. The advanced societies of modern times have, however, left the age of deficit and entered upon the age of surplus, where there is more than plenty for all. Under this latter condition the problem is, how to preserve capital, not how to create it, how to keep people from consuming the capital that they already have, not how to get more of it. Where formerly interest was paid for the sacrifices involved in creating it, to-day there is no sacrifice involved in creating capital. To-day interest is paid to preserve capital.

In modern times capital is created not by getting people to sacrifice and save, but by getting them to increase their productive power. Whenever a new addition is made to the capital fund of the community, it comes through some gain in productive power. Often a man increases his effi-

ciency, and as a result gets an income greater than the other individuals in the group to which he has always belonged. His standard of living is largely fixed by his group, but his income, being above that of the group, gives rise to a surplus. He naturally disposes of this through investment. This increases the capital fund of the community. If, for example, his income has risen to $1,500 a year and his standard of living required only $1,200, then through investments he would yearly add to the capital fund of the community to the amount of $300. Similar investments on the part of many individuals are the source of all modern capital.

The more rapidly a man raises his standard of living, the less rapidly is capital likely to be created. Emphasizing the present, instead of the future, causes a variation in the rate of interest, since the rate of interest rises or falls as the present or future is respectively overvalued. Any raising of the standard of living emphasizes the present as opposed to the future. This is a marked tendency of modern times with its increasing emphasis on the value of a high standard of living. Men in an age of surplus live more and more in the present, and think less and less about the future. This would seem to indicate that the supply of capital for the future is in great danger of being impaired. This tendency is checked at all times, however, by a rising rate of interest, which automatically prevents the standard of living from rising so high that the supply of capital is not preserved for the needs of industry.

TOPICS FOR CLASS DISCUSSION

1. If capital is needed in production, why is the question of justice raised when its use is paid for?

2. Can law fix the rate of interest at any point desired? Why? Does it succeed in fixing a maximum rate?

3. Why does the rate of interest vary at the same time in different sections of the country? in different businesses?

4. The savings of the American people are nearly a billion dollars a year. What and where are they?

CHAPTER XLVIII

THE THEORY OF PROFITS

One of the greatest obstacles that students just entering the field of economic science have to encounter is the question of terminology. Economists are constantly putting new wine into old bottles by giving new meanings to old terms. We have seen that "land" is not land in common speech, nor "rent" rent. The term "profits" likewise has a technical meaning in Economics. Ordinarily, when one speaks of profits, he refers to any gain secured in business, usually the difference between the buying and selling price of an article; but in the science of Economics the term has a more definite and limited meaning than in popular language. Stated briefly, profits as used in this chapter refers only to the returns, or rewards, that go to a business man because of his superior ability in managing his business. Profits thus partakes both of the nature of wages and of rent. It is a return for a form of human effort known as organizing ability, and at the same time it resembles rent in that it is a differential depending on degree of superiority.

There are many forms of labor, — common, skilled, manual, and mental; but these usually apply to labor performed for another. There is another kind of labor, however, which does not come within this class, in that it is labor rendered not for an employer but for oneself. It is the energy, or labor, expended in running a business, in "making things go." It requires a knowledge of how to combine labor and capital in such proportions that the maximum results are obtained. It demands ability in handling men, either one's employees or one's customers. Steadiness and self-control, energy, good

judgment, a ready grasp of situations, and organizing ability, all are part of the rôle of the successful employer. His efforts, though seldom termed "labor," are a form of human effort, often of the most difficult sort. His reward is in the nature of wages; but not being paid by a superior, and not fixed in amount or guaranteed, is termed "profits."

As land is of unequal fertility and accordingly receives different rents, so men in business for themselves of unequal ability as organizers similarly receive different rates of profits. Herein are profits like rent. They are a form of differential. In a previous chapter we divided land in four or five different belts or classes. The same can be done with a group of men which constitutes the *entrepreneurs* of the country. There is, first, that class of men who stand out from among their fellows as leaders and pioneers. They have a keen insight for great possibilities, are resolute, commanding, and naturally inspire men with confidence. Their success is so phenomenal as to cause the less fortunate to feel that they were "born under a lucky star."

In this second group of *entrepreneurs* are found men of high talent who can master a situation, are resolute and prompt, but yet who are not geniuses and who lack the broad vision and judicious daring of those in the first class.

In the third class are found what might be called the rank and file of average business men. They do things on a small and conservative basis. They make a comfortable living in business. It is, however, only their frugality and conservatism which prevent them from going to the wall.

In our fourth and last class are found a multitude of men who are on the border line between employers and employees. They often oscillate between these two classes and seem to be in business for no particular reason other than that they wanted to try their hand at it. They are men of checkered careers, usually with the record of bankruptcy back of them. Averaging up their gains and losses over a lifetime, one may justly call them the "no-profit" class of *entrepreneurs*.

As in the case of rent, the poorest or no-rent land was used as a basis for measuring all rent, so in the case of profits this poorest or no-profit class is used as a basis for measuring all profits. This can best be concretely illustrated by taking *entrepreneurs* in one industry rather than from all kinds.

Imagine a man of the no-profit class in the cotton-manufacturing business. For the year, after meeting all his expenses, he finds that he just squares himself. He, of course, sells his cottons at the regular market rate. A man in the class above him pays the same rate of wages and rate of interest, buys his cotton yarn at the same price, and sells his product at, of course, the fixed market rates, yet because of his superior ability as an organizer finds that at the end of the year his profits net him $2,000. We might continue the illustration right on through the other classes, each having to pay the same rate of wages and interest and practically the same for raw products, but each in turn receiving a greater profit, proportionate to his superior organizing ability.

Having seen that profits are by nature a differential, there are two other characteristics that deserve our attention. First, profits are a form of wages because they are a return for human effort directed toward production, but unlike ordinary or contract wages, they are not fixed in advance, and there is no guarantee that they will be paid. The man who works for profits must assume all risks. Second, profits of all the sources of income fluctuate the most violently. Interest is relatively staple. It usually varies within narrow limits. Wages conform to the market rate and move upward or downward but slowly throughout the decades. Profits, on the other hand, may be wiped out in a season and loss encountered in their place. If prices fall, the *entrepreneur* is first to feel the effect in diminished profits. If prices fall rapidly, there is little hope of distributing the losses, as wages are relatively fixed by the unions and a certain standard of living, and the rate of interest on borrowed capital is fixed by general market conditions. A sudden fall in

the price of a particular finished product usually comes entirely out of the *entrepreneur's* profit. However, a sudden scarcity of the product in question with its resulting rise in price directly contributes to the fund of profits of the *entrepreneur*, and only slowly and indirectly affects either wages or interest. The *entrepreneur* has aptly been compared to a spring or buffer which takes up and distributes the strain of industry. He is the first to feel the influence of changing conditions. If prices fall, the first loss falls on him. If prices rise, he is the first to receive the gains resulting from a returning tide of prosperity. He is the intermediary in industry, a kind of economic buffer.

TOPICS FOR CLASS DISCUSSION

1. What are the chief elements in business success?
2. Do unsuccessful employers pay less wages than those who make large profits?
3. What is the effect of competition on profits?
4. What devices do *entrepreneurs* sometimes employ to escape competition?

CHAPTER XLIX

THE THEORY OF WAGES

HAVING already discussed the respective theories underlying the economic phenomena of rent, interest, and profits, we are now prepared to turn our attention to the theory of wages. We have left this to the last in our discussion of theories, not that wages is a residual claimant getting only what the other factors leave, nor that it is the least important sharer in the distribution of wealth, but merely because the theory of wages, like a keystone, completes the arch of economic theory, uniting the various parts into an harmonious whole.

It is a commonplace to say that without labor no wealth can be created. It is one of the most essential of the agents in production. As defined in Economics, labor is a broad term, including all human effort of body or mind put forth in the creation of utilities. The services of a railroad president receiving $50,000 a year, and those of a day laborer receiving but $1.25 per day, come under the definition of labor as here used. They both are forms of human effort put forth in production. The purpose of the present chapter is to inquire into the law which regulates the size of the share which goes to labor in the distribution of wealth, just as in the preceding chapters we inquired into the laws regulating the rewards which went to land as rent, or to capital as interest.

In any complete theory of wages it is essential to note carefully two distinct phenomena. First, what explains the phenomena of some forms of labor receiving as wages $1.25 a

day and other forms of labor receiving many thousand dollars a year? Second, what explains a general rise or fall of all wages? Though inequalities in wages may still exist, what can explain the fact that labor may be getting a larger or smaller share of the total wealth produced at one time than at another. These two problems will engage our attention in the order named.

First, why are wages to-day unequal? The workers of the world may roughly be divided into certain fairly well-defined groups. There is first the great mass of common labor; then the skilled labor group, which includes the mechanics and the clerks. In the next group are the rank and file of the professional and business men. Lastly, there is that smaller group of men who stand at the head of the heap in the industrial and professional world. They are the men with national reputation either in the professions or as captains of industry. These four groups are arranged according to the degree of ability evidenced. What, then, fixes the rate of wages which go to these more or less non-competing groups of workers? Is it solely a question of relative productiveness that allows the members of the highest group $50,000 a year and to those of the lowest group $1.25 a day? Is it because the man getting $1.25 a day creates that amount of wealth, no more and no less, that his wage is fixed at that point? Is it because one creates by his services $50,000 worth of wealth a year that his salary is fixed at that point? Or is there a factor involved which we have overlooked, the presence of which means that there is no absolute causal relation between a man's productive power and his wages? There is. Such a factor is monopoly.

Each laborer above the poorest of the lowest group enjoys in a measure some monopoly power by means of which he maintains his rate of wages. His monopoly power is similar to that of all monopolists. Any one who fixes the price of his commodity with his eye on the needs of the consumer rather than on the actual expense involved in making the

said commodity is a monopolist. Few indeed, from the corner grocer to the coal baron, are not monopolists to a greater or less degree. The phenomenon of monopoly is a natural one. In exercising monopoly power labor is no exception. The railroad president charges for his services not what it "costs" him but what he thinks he can get because of the needs of the community for his particular kind of services. Each of the four classes of labor that we have mentioned charges for its services what "the traffic will bear" regardless of the "costs" involved. Each one who strives to get out of a lower group of labor into a higher, does so to increase his monopoly power. The smaller the numbers in the group into which he enters, the greater his monopoly power, and therefore the greater the wages which he can command. We praise the boy who goes through high school or college. His motive is to get a greater and greater monopoly power by entering into occupations where there is little competition. The man who leaves the crowded class of unskilled labor and joins the smaller group of the skilled thereby increases his monopoly power and as a result can command higher wages.

Thus, in a general way, the difference in the wages of these various non-competing groups depends on the respective monopoly power of the group in question. The monopoly power of these groups is never hard and fast. It depends on the relative supply and demand for the kind of labor of the said group.

We have an excellent illustration of how the law of supply and demand fixes the rate of wages generally when we contrast wages in America with those in Europe. America is a country calling for workmen. Europe is a country of workmen calling for work, though this is becoming less and less true as we attract to our shores their surplus population. In America wages are relatively high as compared with Europe. Wherever the number of economic opportunities (demand) exceeds the number of laborers (supply), there

wages will be relatively high. If the relation between the number of opportunities and workmen is reversed, then wages will be relatively low. In the first situation, as illustrated by America, labor has greater monopoly power, and hence wages as a whole are higher.

What is true about the relative supply and demand of the labor force giving one country higher wages than another, is equally true when we contrast not country with country, but group with group, within the same country. The wage of the day labor group is fixed by the degree of monopoly power which it possesses. This of course depends on the relation of the supply of common labor to the demand for it. The wage of the skilled group in like manner is fixed by the extent of its monopoly power. This is true of all the groups into which labor can be divided. In stating thus broadly that wages depend on the degree of the monopoly power of the class in question we do not mean to ignore certain other factors which have an influence in fixing wages, such as a general rising standard of living and the increasing socialization of labor. These are merely modifying forces of which we shall speak presently. They do not vitiate the working hypothesis that we have outlined thus far.

We are now ready to take a step forward in the general theory of wages. Let us assume that we have a number of groups of workers. Those in group A are in an occupation in which they can earn $1.50 per day; those in group B get $2.00; those in group C, $2.50 a day, and so on up the scale. What prevents a violent fluctuation in the respective wages of these various groups? If the wages in group B begin to fall toward the $1.75 mark, what will check this tendency and restore the old rate? Stated broadly, wages are fixed by the options which the strongest and most progressive in each group possesses. Any fall in the rate of wages in one industry will cause some of the best workmen to leave that industry and enter another, rather than suffer a reduction in wages. The number of workmen in the old industry is

reduced, and as a result the old rate of wages is restored by a readjustment of supply and demand.

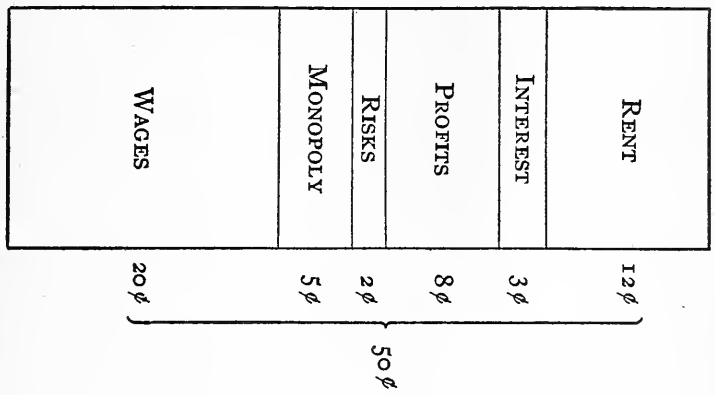
This movement of the strong from industry to industry, from $2.00 to a $2.50 standard, prevents violent reductions in wages of any of the groups. As society advances, these options of the strong in each group grow more varied and effective. Even though the individual may not exercise this option in all cases, he endeavors so to educate his children that they no longer replace their father in the old group, but enter a group higher up, where competition is less keen, the monopoly element greater, and wages higher. The son of the East Side vender of New York becomes not a street vender but a merchant tailor or a real-estate broker. Thus the pressure of numbers in the old group is reduced and wages are at least maintained at their old level. In the New York East Side situation, the operation of this law is obscured by the great flood of immigration to that city. With a sufficient number entering the group above there is a tendency for wages to fall in that group, but again the more progressive of the group have the same option of leaving their group as those in the group below; and as a matter of fact, we see the same process taking place. Thus one sees that "the monopoly power of each group, gained through the options of its strongest members, is the sole determinant of wages and is the one thing for which laborers should seek."

We are now ready to take up the second problem which we outlined in the opening pages of the chapter. Is wages a gaining or losing share in distribution? If it is either, what is the cause? If labor is getting a greater proportional share of the products of industry to-day than ever before what is the force back of the change? A certain school of Economists contend that labor gets in distribution a share proportionate to the part that it plays in production. According to their position, it would be easy to explain why labor is getting a relatively larger or smaller share in distribution. It must be either increasingly or decreasingly

productive, or its share would not change. If, however, we assume, as we have done, that there is no direct casual relation between labor's productiveness and its reward, but that its remuneration depends largely on what it can command through the relative strength of its monopoly power, then we must look elsewhere to explain the phenomenon of wages rising or falling, over a series of decades.

A natural place to start in seeking such an explanation is to study the various elements that enter into the price of commodities. The price of a commodity gives us the size of the fund to be distributed, and the price-making elements give us a list of the various claimants which must be satisfied out of this fund. It will be well to first study in miniature, so to speak, how distribution works with one commodity and then enlarge our illustration to include all commodities, the combined price of which will be the fund out of which all the various claimants in distribution, as rent, interest, and the like, must be rewarded. Assume that one pays fifty cents for a jackknife. The knife is the result of labor on raw materials secured directly or indirectly from land and fashioned into a thing of usefulness by the aid of tools (capital). As a finished product ready for the consumer it brings fifty cents in the market. What fixed the price of this article at a half dollar? To answer this we must first decide what are the price-making elements involved. Out of that fifty cents, something must be set aside to pay the interest involved in the manufacture of the knife. Another portion will go to cover the risks involved from the time the raw material was first selected until in its finished form it was passed over the counter to the consumer. Another part will go to pay for rent. Another part will take the form of profits. Still another part of the half dollar must cover the labor cost involved. Perhaps forty-five cents will settle the claims of these five elements. Can we assume from this that the dealer will fix the price at forty-five cents? Not so. If by charging fifty cents the dealer can dispose of nearly as many

knives as though he were charging forty-five, then he will use his monopoly power and charge a half dollar. Monopoly power is then our sixth and last element in price, and as such it will claim a share of the fifty cents as much as wages or profits claim a part. In brief, there are six elements that go to make prices what they are. Each of these elements is a sharer in distribution, whether it is a factor in production or not. Graphically we might represent this relationship by the following figure. The outside dimensions stand for the price of the jackknife.



From this simple illustration one can readily see that each share in distribution grows or falls off as it becomes a larger or smaller element in the price of the jackknife. In our diagram, if rent increased from twelve to fifteen cents, the sum of the five remaining shares must have fallen off in order to maintain a total of fifty cents for all the various claimants.

The illustration of the jackknife is but typical of the processes involved in the distribution of all wealth. In place of the knife, one must think of all commodities ready for consumption. In place of the price of fifty cents, one must think of countless millions of dollars, the total price of commodities. The price-making elements which will claim a share in distribution will, however, remain the same. They will still be the six claimants — rent, interest, risks,

profits, monopoly, and wages. Each of these shares will grow or fall off as it becomes a larger or smaller element in the price of commodities.

We are now prepared to ask what forces there are at work which, as time goes on, can cause some of these shares to become a larger or smaller element in price. If there are forces causing rent to become a smaller element in the price of commodities, then the rate of rent is falling. What rent loses as its share will go to some other claimant, for there can be no general rise or fall of all prices. If wages is becoming a larger element in the price of commodities, then the rate of wages is rising. What labor gains as its share of the fund, represented by the total price of commodities, must decrease the share of some other claimants. What one gains the other must lose, just as in our jack-knife illustration, when rent increased from twelve to fifteen cents, some other share was cut down to maintain a total of fifty cents, the price of the knife.

What forces are there in civilization that can change the relative size of the shares which go respectively to the six claimants in distribution. There are two sets of causes which might have this effect: first, the relative rate of increase of the products of the factors in production; second, the various ways in which the power of substitution acts on the six elements in price.

We will now proceed to discuss at greater length these two possible causes of changes in the rates of interest, wages, and rent. As to the first explanation, let us see how the relative rate of increase of the three factors, land, capital, and labor, can affect the rate of rent, interest, and wages. To understand clearly the effect of having two or three factors increasing at different rates, we will start with the simplest illustration possible.

Assume that in a certain community two bushels of wheat exchange for one yard of cloth. Through greater science and care in wheat raising, through draining a marsh here and

using fertilizer there, the amount of wheat raised in the community is greatly increased. As a result, the ratio of exchange between wheat and cloth is changed, and now the farmer must give three bushels of wheat for one yard of cloth. The cloth manufacturer works no harder than formerly in making his cloth, but now for each yard of cloth that he weaves he gets three bushels of wheat in exchange where formerly he got but two.

Suppose that after a while the makers of cloth improve their method of manufacture, introducing new and improved machinery and working out the economies of the division of labor to a nicer degree than formerly. What will be the result? Increased efficiency will mean that an increased amount of cloth will be turned out for the market. Again there will be a change in the ratio of exchange of wheat and cloth. For one yard of cloth the weaver can no longer get three bushels of wheat, but only an even bushel. In this illustration, involving the two factors of cloth and wheat, that factor which for the time being was increasing its output the less rapidly received all the benefits arising from the increased output of the other factor. When there was no improvement in manufacturing cloth, it reaped the benefit resulting from improvements in agriculture; and when there was an improvement in the manufacture of cloth, all the benefit accrued to the farmer because he then got more cloth in exchange for each bushel of his wheat.

The phenomenon of the ratio of exchange varying with the relative increase in the size of the exchanging factors is based on the same principle as that involved in the quantity theory of money, which gives us low prices when the quantity of money is scarce and high prices when the amount of money as compared with commodities is abundant. This gives us an important law in Economics, which has been crystallized by Professor Patten as follows: —

"Of the factors necessary for production, that factor which tends to increase at the slowest rate will reduce the

shares of the other factors to their lowest limits, will have the benefits of all improvements, and must bear all permanent burdens."

That is to say, the same principle is involved when two factors increase at different rates, whether the factors be capital and labor, or wheat and cloth. If, for example, during twenty-five years the amount of capital of a country triples itself while its population only doubles, the result on the rate of interest is evident. Other things remaining equal, interest will fall while wages rise. The steady fall of the rate of interest as a country grows older and wealthier is one of the commonplaces of economic history. One might have contrasted land and capital. If through scientific farming the products of the land increase more rapidly than manufactured goods, the product of capital, then interest must rise and rent fall, provided all else remains the same.

If we observe the wonderful changes that have been, and still are, taking place in this country, we can come to but one conclusion as to which is increasing the least slowly of the factors of land, labor and capital. Our capital fund is steadily gaining on the growth in population. We are wealthier as a nation than ever. There is more capital per person in the country. The interest rate has been steadily falling.

With the incoming of scientific agriculture, our food possibilities have gone ahead by leaps and bounds. By reclamation and irrigation we have doubled the land area that can be devoted to agriculture. This has all happened within a generation. The use of new foods and the greater yield of old, through scientific fertilization, mean that our growth of food production has far outstripped the growth of our labor force. The conclusion is apparent from an examination of the development of the last fifty years that labor is the least slowly increasing factor. Therefore, labor's share of wealth in distribution will tend to grow

larger, while the shares of land and capital will tend correspondingly to decrease. Thus far we have concluded the discussion of the first reason given as an explanation of the phenomenon of certain claimants in distribution, as rent and interest, becoming relatively smaller elements in price, and of other factors, as wages, becoming relatively larger elements.

We are now prepared to discuss the second reason assigned as an explanation of this same phenomenon of the changing size of the shares of the price elements. We have already briefly stated the cause as due to the different ways in which the power of substitution affects the six claimants in distribution. Broadly defined, the power of substitution is the power which the consumer exercises over the price of commodities by his ability to substitute another commodity at a cheaper price. The price of electricity as an illuminant can never soar to the extreme heights that might be possible could people not substitute gas or oil for it. If the power of substitution is active, prices are cut down. If slightly active or absent, prices go up.

Among the various claimants for a share in distribution, where is the power of substitution most active and where the least so? Can we divide these various claimants into two groups, the one containing those claimants in which substitution is most active, and the other, those in which it is least active? If we can, then we have the basis for an assertion that certain shares in distribution are gaining while the other shares are losing. The returns to that group in which the power of substitution is most active will be forced down, while the other group will gain all that the first group loses. Let us consider one after another how substitution affects each of the six claimants, rent, interest, risks, profits, monopoly, and labor. First, with land the power of substitution is ever active. New land is constantly becoming available as a substitute for old. The rent of the Dakota wheat lands has its upper limit of rent fixed

by the presence of other wheat lands that can be substituted for it, such as those of Canada, Russia, or Argentina.

Second, the power of substitution is an active force lowering the rate of interest. New and better forms of capital goods are constantly being put on the market. New machines are substituted for old, with a resulting fall in the general rate of interest.

While the third claimant, risk, can hardly be classed as subject to the power of substitution, there is no doubt that risk is becoming a smaller and smaller element in price. As society advances, business conditions become more steady. Risks, through the application of the principle of insurance, are being reduced to a minimum. Civilization means an increasing control of the environment, which in turn means less risks and greater stability. This is best emphasized in connection with the increasing certainty and steadiness of the modern food supply as contrasted with that of a hundred years ago.

Profits, as has been explained before, is a differential gain which is constantly being lost. A man puts in a new system of manufacturing. He reaps for the time being an extra reward called profits. This differential advantage he soon loses, as there are constantly a host of imitators following in the wake of his success. Through the power of his competitors to substitute new and better methods for the old ones, his profits are constantly cut down.

We now come to the two remaining claimants, monopoly and wages. By definition, monopoly implies the absence of the power of substitution. Introduce the power of substitution and you destroy monopoly. In regard to the other claimant, wages, the power of substitution on the part of the employer to substitute cheaper and cheaper labor for the better paid is becoming less and less possible. The greater the mobility of labor, the less the power of substitution on the part of the employer. With a glutted labor market, the *entrepreneur* could force wages down by sub-

stituting the man who would work for less for the man asking his old wage. But increasing mobility means a readjustment of the supply and demand for labor. As a result, the employer is largely deprived of his old time power of substitution and therefore of his control over wages.

We come to the conclusion, therefore, that against monopoly and wages, two of the six claimants in distribution, the power of substitution has little or no effect. This enables us to divide the price-making elements into two classes. Rent, interest, risks, profits, stand in that group which have their shares cut down because the power of substitution is active against them. Monopoly and wages stand in the other group, where the power of substitution is inactive. This second group gains all that the first group loses. Price remains the same. Therefore, if one element makes a smaller part of it, another must make a correspondingly larger part.

Though monopoly and wages stand in the same class as increasing factors, there is an important distinction between them. Monopoly is a residual claimant. Wages is not. Monopoly power has definite limits. It can only claim that part of the social surplus that is not taken by interest, profits, rent, risks, and wages. The shares of these factors are fixed by definite economic laws of their own. What is left goes to the monopolist. There is no active force raising or lowering monopoly's share. Wages, however, has such a force back of it. Like monopoly, it is gaining because it is in that class against which the power of substitution is least active; but unlike monopoly, it can exercise the power of substitution in its own defense, with the result that it is gaining along with monopoly, but even more rapidly.

Thus far in speaking of the power of substitution, it has always been in reference to something inanimate, as land or capital goods, against which it was brought to bear. As we have just stated, in connection with labor, the power of substitution has a different relation. Instead of being used

against labor, to break its monopoly power, it is a lever by which labor can effectively aid in increasing its share in distribution. As applied to labor in this connection, the power of substitution is the ability of labor to substitute better opportunities of work and wages for poorer ones. The Italian sailing for America, the Russian Jew of the East Side leaving the sweat shop and starting a small store of his own, are each exercising his power of substitution. Each is increasing his wage. As we go upward among the more efficient groups of workers, the opportunity to exercise the power of substitution increases. Because of the existence of a range of options, it is impossible, as we have already seen, to have any sudden reduction in the rate of wages of any one group. Enough of the stronger members stand ever ready to exercise their option, and the downward trend of wages is checked.

The power of substitution is only a tool, a lever as it were, by which wages are raised. What then is the force lying back of this tool, making it an effective agent in the advancement of wages? What prompts the laborer to go to great expense and trouble to exercise his power of choice? What force sends the immigrant across 3000 miles of water, or the man in the East nearly as many miles west or southwest? The answer is, a dynamic standard of living. It is a matter of common knowledge that man's wants increase faster than his means of satisfying them. This psychologic fact leads one to endeavor to increase his income to meet this ever increasing growth of wants. The increase in the standard of living and the comforts of life are everywhere apparent. The American standard of living includes things denied to kings in ages past. It is an upward movement felt in all walks of life. But a dynamic standard of life is not all that is needed. The standard must be maintained when once attained. This is made possible by the increasing socialization of labor, whereby individuals of a group refuse to act against the interests of the whole. This

socializing process, which is quite characteristic of modern industry, is well represented in the growth of unions, associations among professional men, retail dealers' associations, and the like.

The union, for example, has a direct relation on a standard of life. It gives to the whole group a common standard, and though the union may not be the cause of an increasing standard of living, it is a means by which a standard after it has once been reached can be maintained. The union principle is an efficient brake to be applied to prevent any cut in wages which would lower the standard of living for the many, after it has once been made possible by an increased wage. It is analogous to a brake on a cog wheel which makes secure the progress already made, while a stop is temporarily made before fresh progress is attempted.

Having already noted the usefulness of the power of substitution in general as a means of forcing down the shares of interest, rent, and profits, to the gain of monopoly and wages, and particularly as a lever whereby labor increases its money income, while at the same time it forces down the price of the consumption goods which that income buys, one is led to ask, can we expect to see this power of substitution grown stronger as time goes on? There are four tendencies in modern life which answer this question in the affirmative.

First, the mobility of labor is rapidly increasing, due to the steady cheapening of transportation, whereby at low rates labor can now move from one labor market to another. This has not only affected the mobility of labor within a country, but it has even had an international influence. Every year two or three hundred thousand Italians leave Italy for their Argentina farms, which they can work in conjunction with their Italian holdings, as the summers in the two places fall in different parts of the year. As time goes on and mobility increases, differences in the rate of wages in the East, West, and South of this country must

tend to disappear. The greater the mobility, the greater the field on which one can exercise the power of substitution.

Second, there is the increase in the efficiency of the laborer, whereby he is enabled to extend the range of opportunities open to him. Industrial education, whose chief end is increase in efficiency, is now receiving serious attention in this country. In the future, we are likely to see the movement grow, as it already has in Germany. The greater one's efficiency, the greater one's power of substitution. We are rapidly adopting all those methods of education whose end is efficiency.

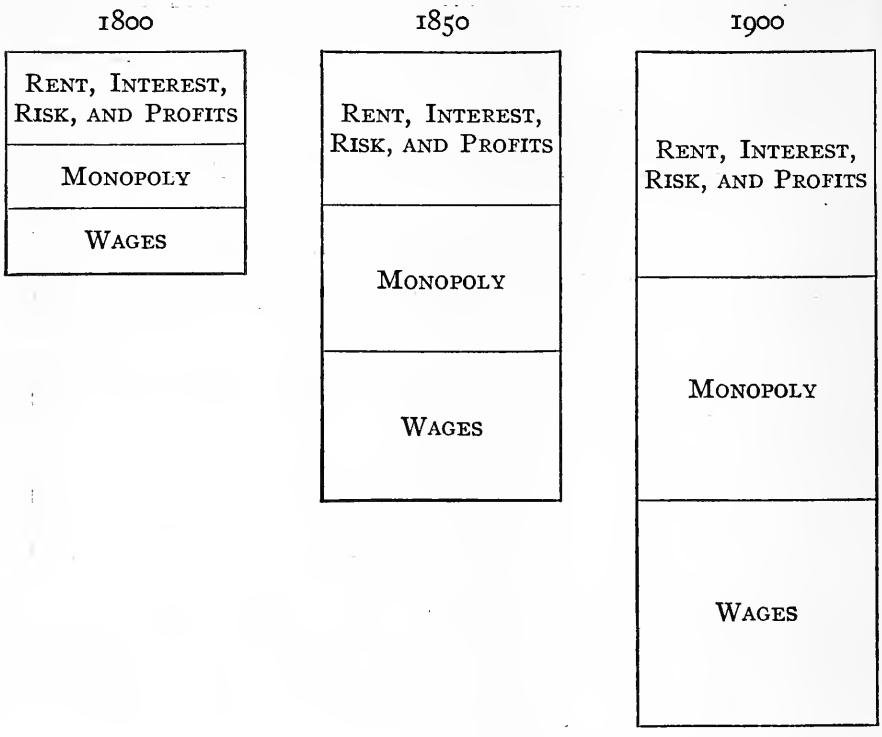
Third, the increase in leisure. The movement in favor of the eight-hour day, the Saturday half-holiday, and the summer vacation means greater opportunities to exercise one's power of substitution. A week's vacation or a Saturday afternoon off may be the occasion for gaining a knowledge of new and better economic opportunities. Certain it is, one can take a more intelligent interest in what is going on around him after an eight-hour day than after coming home at the close of a ten- or eleven-hour day too tired to do or think of anything else than of sleep and of repeating the process the next day. The more one's leisure, the greater the desire to increase one's income, and also the greater the opportunity for exercising the power of substitution to attain this end.

Fourth, an increased variety in consumption. This is evident to-day in the new kinds of food, clothing, and amusements. Such an increase gives labor a wider range in which to use its power of substitution, and this means more efficient use of its purchasing power. These four tendencies are all on the increase. As time passes, it follows that the power of substitution will become a greater and greater force in increasing the share in distribution that goes to labor. We are now prepared to restate the complete theory of wages. Having dwelt in detail on many of the smaller points necessary to a comprehensive understanding of the

subject, the whole theory may now be given in outline. To recapitulate, in discussing a theory of wages, two phenomena must be explained. First, what causes the vast differences in rates of pay which to-day may vary from $1.25 a day to $50,000 a year. We saw that the highest wages are paid to those who had the greatest monopoly; that wages are kept in a kind of *status quo* in the various groups because any violent reduction in wages in one group forces some of the more progressive ones or their children to leave the group, thereby removing the pressure of the oversupply, which was forcing the wages down.

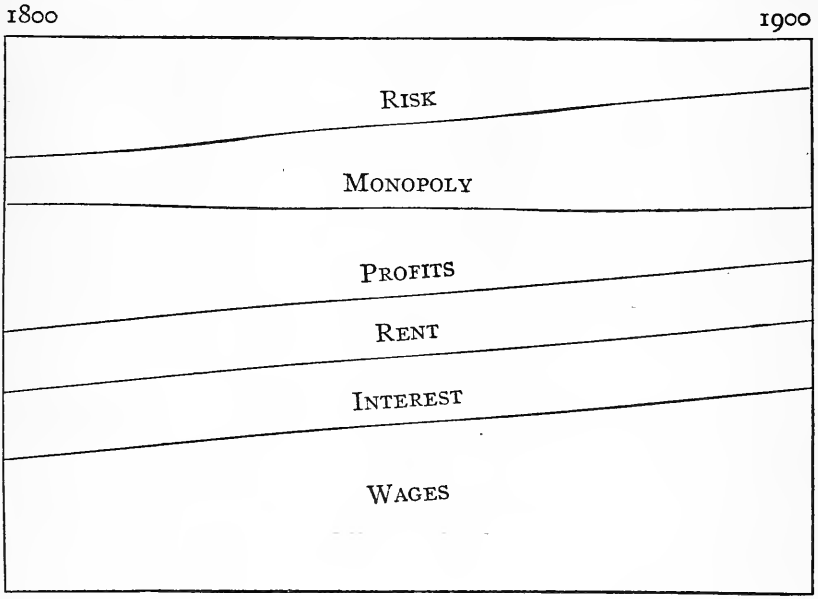
The second phenomenon to be explained, referred to the rising or falling of the general rate of wages over a series of decades. It was pointed out that the claimants in distribution are the six elements that enter into price; namely, rent, interest, profits, risks, monopoly, and wages; that price is a fixed amount; but that the rewards of the different claimants vary because some get a larger, while others get a smaller, share from time to time. It was pointed out that, according to the law of distribution outlined some years ago by Professor Patten, the factor in production which increases least slowly gains at the expense of the more rapidly increasing factors, as when capital accumulating faster than population, interest falls and wages rise. The conclusion was inductively reached that labor, as a factor, increases less rapidly than any other. This means that labor is gaining at the expense of rent or interest. This tendency of wages to increase was seen to be further aided by the action of the power of substitution, which actively affected four of the claimants in distribution, and two of them but slightly. This gave us the basis for dividing the six claimants into two classes, — those in which the power of substitution is more active, and those in which it is less so. In the first group were rent, interest, profits, and risks, and in the second, monopoly and wages. It was seen that the group against which the power of substitution is active is

constantly having its share cut down while the other group gains all that the first group loses. It was further seen that of these two increasing claimants of the second class, wages is gaining more rapidly because it can exercise the power of substitution in its own behalf, while monopoly is only a residual claimant. These changes may be graphically presented by the following diagrams: —



Let the first figure represent the way that returns of production were distributed in 1800, the second will show the change by 1850, and the third by 1900. In each of these figures there is an increase of the size of the price fund, because man's productivity is increasing. In each of these figures the amount that goes to the various factors, as rent, profits, etc., has actually increased. The point to be noted is, that in the second and third figures a proportionately larger share is represented as going to wages and monopoly,

and that of these two factors a larger proportionate share of the increase goes to wages than to monopoly. Thus as represented in these diagrams, the rate of rent may in reality be rising while relatively it is a smaller element in price than ever before. These time changes in distribution may be graphically represented by the following diagram: —



As will be noted from the last figure, both wages and monopoly have a larger share of the total in 1900 than they had in 1800, while rent, interest, profits, and risks have a correspondingly smaller share.

Finally, it was noted that there are certain marked tendencies in modern civilization for the power of substitution to become a more and more powerful lever by means of which wages can be forced up as time goes on. Chief among these were an increasing mobility on the part of labor, a shorter working day, affording more leisure and hence opportunity to use the power of substitution, an increasing efficiency on the part of labor, and greater variety in consumption. All of these are tending to place labor in a

better and better position as civilization advances, and to give it a larger share in the distribution of wealth.

TOPICS FOR CLASS DISCUSSION

1. What was the wage fund theory?
2. What the "Iron Law of Wages"?
3. Who was Malthus? What did he teach?
4. What does the Productivity theory maintain as to the question of wages?
5. What concern have the rich in the abundance of labor?
6. What is meant by the "sweating system"?
7. What is the effect of free common schools on the comparative wages of skilled and of unskilled laborers?

BOOK IX

CHAPTER L

COLLECTIVE BARGAINING AND THE OPEN SHOP

I. Collective Bargaining

A COLLECTIVE bargain is an agreement made by the representative of a group in their name. As the term is currently used, the group of persons interested is a group of laborers. The delegates whom they elect bargain in their name with the employer concerning wages, hours, working conditions, and other questions of employment which come up between employer and employee.

Collective bargaining is an accompaniment of the wage system. Under the feudal system the lord or baron was responsible for taking care of those dependent upon him. Under the wage system each man is responsible for taking care of himself. As a result of this condition of affairs, the competition among the individual wage workers has become very great, particularly since the introduction of the factory system. If a position was open, the man who, other things being equal, was willing to work for the lowest wage, secured the position, while the man who was unwilling to work except at a good wage was unable to secure employment. Women and children were also brought in to take the places of men, and assisted by machinery they, in many cases, did the work which was formerly done by men and were paid at a lower wage. The employers used their advantage to the utmost and forced down wages. Gradually there developed in the minds of the wage workers a feeling that they must stand together if they were to secure their

rights. The collective bargain was therefore a means of self-protection adopted by the employees to secure concessions from the employers of labor.

The American colonies made a collective bargain with England in the treaty which followed the Revolution. When the Constitution was formed, delegates were appointed from the various colonies who made a collective bargain in the name of their constituents. The stockholders in a modern corporation delegate to the officers of the corporation a right to bargain in their name. The principle of collective bargaining underlies all the collective or social movements in history. So long as men are living together in organized society they must delegate authority. Only in that way can the work be done. The delegation of authority to a few is the foundation of all representative government.

The average worker, as has been mentioned, is at a great disadvantage as a bargainer. An employee of the New York Central Railroad could not walk into the office of the General Manager and request in his own name an increase in wages or a decrease in the number of hours. The whole system of modern industry is based on the thought of collective or coöperative action and all the employees of a railroad system are put upon the same basis.

In reality the average person who goes to a corporation for employment is not able to make a bargain. He states his demand for employment and the employer replies, "We are paying $2 a day." The employee has two alternatives — he may take the $2 a day, or he may do without the job. He has no chance of making a bargain. He must either accept or reject the ultimatum. A bargain may be made only between those who are on an equal footing. The employee who must sell his labor at once or starve, and the employer who may retain his capital in a non-employed state for a considerable time without any particular loss to himself, are not on equal footing. One is forced to act at once, the other is in a position where he may wait if he so

desires. To meet this difficulty, trade unions have been organized. The thought underlying the trade-union movement is the desire for a collective bargain. Without the collective bargain the trade union would be impossible.

In modern industry trade unions are organized on a national or international basis. At the time when the employer of a given factory made a bargain with his own employees represented by their shop committee, something like a fair collective bargain was possible. Later the employer found that he was facing not only his own employees but those of a score of other manufacturers in the locality. The unions were enlarged until they became national in scope, and then in case a group of employees had difficulty with their employer the whole power of the national union was directed against him. At once it became evident that the employer was not in a position to make a fair bargain. He was one man facing a national organization. He was dealing single-handed with the employees of all the manufacturers in the country who were engaged in his trade. As a result, many manufacturers were defeated in strikes, or were forced to grant concessions without a strike. To add to the discomfort of men against whom strikes were called, those engaged in the same business did all in their power to urge unions to strike against their competitors. Such action, they believed, gained for them more markets and better trade. In the long run, however, this policy did not prove advantageous. When a rise in wages had been secured against one employer, the unions set to work to secure the same increase against all the employers in the same line. It soon became evident, therefore, that if the unions were organized on a national scale, the employers must do likewise if they were to preserve a fair balance of power. The manufacturers of the country, therefore, organized the National Association of Manufacturers, which in turn did its best to organize the employers in all large towns and cities into local employers' associations.

In its contention the union no longer met the single employer. Fellow-employers no longer aided each other's overthrow. The employers were now standing shoulder to shoulder. Instead of individually fighting the union they fought it collectively. The forces of the industrial struggle became a vast organization of labor on one side facing a vast organization of capital on the other, — the American Federation of Labor opposing the National Association of Manufacturers. This situation is the logical outcome of the demand for a collective bargain.

In the field of modern industry these two great contending forces are battling for their respective interests. If one or the other side feels aggrieved, and a peaceable agreement cannot be reached, the weapons of war become strikes and lockouts.

II. The Open Shop

All men are not like-minded. They do not all work at the same trade, nor are they willing to engage in the same movement. If some want something, and some another, no collective bargain is possible. There must be a uniform demand made by the majority before any effective group action can be taken.

If a number of men unite in order to enforce their demands and refuse to work until they get them, they will, in all probability, be successful unless the employer can secure enough non-union men to take their places and thereby break the strike. If the union can make its collective bargain in the name of every employee and can prevent any one from working for the man against whom the strike has been called, it has a monopoly power by which it can enforce almost any demand. This thought is behind the movement for the closed shop.

In a closed shop only union men may be employed. This makes it a "closed shop." The employer must agree to employ none other. If the union restricts its membership

to a limited number or to a certain grade or kind of man, the employer virtually agrees to select his employees from only this limited number of men. In several cities the power of the building trades is such that they have been able to say that only union men shall be employed on the building operations of the city. As these unions are carefully guarded, refusing to admit to membership any large number of men at any one time, they have a virtual monopoly of the labor market in the building trades of their city. They can decide who shall secure employment and on what terms they shall work.

Such a complete monopoly is only possible where the employer will agree to employ only union men. When such an agreement is made, the "closed shop" is said to exist. It affords a monopoly of the most rigid character for those within the group of workers thus protected.

One can readily imagine that, literally speaking, few closed shops exist. It is largely a question of comparison. Open and closed shops have been grouped under the four following heads. Even these divisions are more arbitrary than real.

(1) The real "open shop" in which any person may secure employment without reference to his affiliation or non-affiliation with the union. There are in reality very few shops of this description.

(2) The theoretically "open shop" in which the non-union men are discriminated against, although the employer declares that he has no intention of discriminating in favor of any given class. A shop run on this basis is the "open shop" for which the employers are at present working.

(3) The theoretically "closed shop" in which union wages, hours, and conditions prevail, and in which non-union men may be employed under certain conditions. This shop, like number one, is an exception. Its equilibrium is difficult to maintain and it can be run only by the most scrupulous honesty and good feeling of both parties.

(4) The real "closed shop" in which men are discriminated against because they do not belong to the union.

This is the goal toward which the union is striving when it demands a "closed shop." Only in such is the monopoly power secured absolutely.

The power to bargain collectively is the basis of all trades-union action. The power to secure a closed shop in which non-union men are employed is the only basis for monopoly power. Without collective bargaining the trade union is impossible. Without the closed shop the trade union loses much of the power to control wages and conditions of employment for which it is organized.

TOPICS FOR CLASS DISCUSSION

1. Explain the value of the collective bargain to the labor union.
2. How much justice is there behind the collective bargain?
3. What effect has the collective bargain on the employer?
4. What does the collective bargain mean to the average wage worker?
5. What attitude should the public take toward the collective bargain?
6. Show the relation between the collective bargain and the "closed shop."
7. Is the "closed shop" unjust?
8. Show the justification for the "closed shop" as demanded by the union.
9. Show the justification for the "open shop" as demanded by the employer.
10. What should be the attitude of the public toward the "closed shop"?

CHAPTER LI

THE EIGHT-HOUR DAY; RESTRICTION OF OUTPUT; PACE SETTING

I. The Eight-hour Day

A CENTURY ago work was an end in itself. To-day work is viewed as the means to leisure. Ministers preached and moralists taught that work was an end to be greatly desired for its own sake. Men worked because they believed it was the right thing to do, because they enjoyed it, or because they were forced to work or starve. At that time poor implements made long hours of work necessary to produce enough to sustain life. Modern invention has provided enough for all. To-day men are learning that work is not an end, but a means to secure an end — individual development through the proper use of leisure.

At the time when men worked from sun to sun, work was emphasized as a virtue, and the man who could work the longest and hardest was, other things being equal, the most virtuous man. Against this attitude, a strong movement was begun in the early part of the nineteenth century by English trade unionists and philanthropists with the slogan: —

Eight hours for work,
Eight hours for play,
Eight hours for sleep,
Make up the full day.

A demand was made upon Parliament to pass a law curtailing the number of hours in the day, thereby affording leisure to the working population. In 1847 an act was passed

restricting the work of women and children, and consequently of the men who worked in the same factories with them, to ten hours per day. This was the first great triumph of those who advocated a shortened workday.

In Australia, eight hours has been generally adopted by law and movements are now on foot to secure a working-day of six hours. The advocates of the six-hour day hold that if a man can produce enough in six hours to maintain life comfortably, he should work only so long and utilize the remaining time in congenial leisure occupations.

In the United States ten hours is the normal working-day, though many industries are on an eight-hour basis. Saturday half-holidays are the rule in most of the cities and it is becoming more and more common to give short summer vacations with pay. The laws regulating hours of work have not had a general development in the United States. It is generally conceded that the legislatures have the right, in the interest of the future of the State, to regulate the working hours of children. Numerous State laws have been passed with this in view. In the case of women, the Supreme Court of the United States has recently decided that their labor can be regulated on much the same ground. The welfare of the race depends on its mothers. The labor of men, however, cannot be regulated unless it can be definitely shown that the health and morals of the community are endangered by a workday whose length is not fixed by law.

After many years of groping in the dark, men are coming to realize that the worker who spends eight hours of his time at work, and is then given eight hours for leisure, is more efficient than the one who spends twelve or fourteen hours of his time at work and has no leisure. The command that one day in seven be kept free from work is a recognition of the necessity of rest from routine labor. The developments of the last few decades all point to a time when men will be given a larger amount of leisure. The improvements in machinery with the application of mechanical power to

industry has made it possible for man to produce enough in eight hours of work to supply him with the economic necessities. Before the introduction of machinery, thirteen hours were sometimes necessary to maintain an existence, but it is no longer so; and as the object of work is not work, but leisure, in proportion as the mechanical efficiency is increased, the working period should be decreased.

Underlying the demand of the trade union for an eight-hour day is the economic principle that a man can work more efficiently during eight hours than he can during twelve or thirteen. The unionist is further aided by the fact that enough can be produced in eight hours with the aid of machinery to obviate the necessity of working for a longer period.

Although the law has failed to place restrictions on the working hours of men, the trade unions have, through their organizations, materially affected the working hours. Speaking generally, the effect of trade-union action has been to shorten the hours of labor. A short workday is one of the leading demands of all trades unions. In some of the more thoroughly unionized industries, like the building trades in many cities, an eight-hour day has been established by a contract between the employers and the union. In other industries the contracts call for nine hours. In all cases where unions have secured a foothold they have proved an important factor in reducing working hours.

II. Restriction of Output

The improvement in machinery means increased intensity and monotony of work. With this increase in intensity has come a decrease in the number of hours per day. The change was inevitable. It is more nerve-racking to operate a machine than it is to do hand work. Besides, machinery can be geared up so that a man must work fast in order to keep the pace. Men have organized and refused to work as

rapidly as the highly geared industry requires, and the cry has been raised that the output of the industries in which the issue has been raised is being restricted.

The story goes that a carriage manufacturer in Chicago one day overheard a workman say: "How shall I ever make this wheel last till noon?" The man was painting a carriage wheel, and upon inquiry the manufacturer found that this man's union allowed him to paint only one wheel from the time he commenced work in the morning until he stopped for dinner. The employer promptly dismissed the man and thenceforth ran his factory on a non-union basis. The story may perhaps be true, and it at least represents the general idea of restriction of output, but it is not representative of general conditions. Undoubtedly there is some restriction of output on the part of the trade unions, but the amount is probably exaggerated.

Looking at the matter from a purely altruistic standpoint, the worker should have the interests of the country at heart and should, therefore, produce as much as he possibly can during his working hours, knowing that in that way the sum total of the goods of the community will be increased. Few men, however, act from purely, or even partly, altruistic motives. If the worker can maintain his wages and at the same time do less work, he is very apt to do so, particularly as he knows that increase in output on his part will not increase his compensation.

III. Pace Setting

Looking at the question from the selfish standpoint, the system of pace setting and the restriction of output are only logical outcomes of modern industry. An employer and a worker exchange commodities. The employer gives cash and the worker gives labor. It is to the interest of the employer to pay as low wages as he can. When he is forced

to pay high wages, he complains bitterly. In short, he is trying to secure as much labor as he can for as little money as he is compelled to pay. On the other hand, the laborer is trying to sell as little labor as he can for as high a price as he can. In both cases, it is an effort to buy in the cheapest market and sell in the dearest. That at all times the interests of labor and capital are identical is one of those generalities that find little verification in real life.

A manufacturer of boxes gave the men operating the machines a few dollars extra a week, in return for which it was understood that they should "speed up" their machines, thus giving the men who were handling the material from the machines more work to do. At the end of a week one of the handlers came to the manager and said: "Gif me my money. Me no work here no more. Too much hurry up for nine dollars."

This furnishes an interesting example of pace setting. The best men were put on the machines, and paid wages in order to set a hard pace for the other men. Those who could keep up with the pace were retained. Those who fell behind were discharged. Where unions have intervened, a laborer has in many cases been able to restrict output. Where unions have not intervened, pace setting has often been carried to the extremes found in the sweating system. Men and women have been driven by every possible device to increase the amount produced without a corresponding increase in wages.

When the employer gets the worst of the bargain and the restriction of output is carried to a great extent, he is forced to take a lower return from his business. Where the worker gets the worst of the bargain and has the pace set by the strongest and most capable man in the establishment, his life is rendered miserable. He must keep up or get out.

It is hard to say whether pace setting preceded restriction of output, or whether the reverse was the case. At all events, it is certain that one aggravates the other, and that the

stoppage of one is not probable without the stoppage of both.

Neither the attitude of the man who pays a pace setter nor the attitude of the man who restricts his output abnormally can be morally justified. Each is selfishly trying to get something for nothing. Neither is willing to do a fair share. The object of industrial society should be to secure the greatest product with the least human effort. This object can be attained when only both the employer and the worker are doing the fair thing.

Men working on low wages will not do good work or produce good products, and the employer who pays a wage below a living wage is therefore cheating society out of something that society should receive.

Men who receive wages and do not render a fair return in labor are also cheating society by depriving it of commodities which it should have. From both standpoints, restriction of output and pace setting are unsatisfactory. Which causes the other cannot be definitely decided, but it does not enter into the discussion. Neither should be allowed to exist, as both are detrimental to the welfare of the community.

The ideal to which industry is striving to attain is a normal day, which will allow for leisure as well as for productive effort, — a day that will not be unfairly "speeded up" by abnormal processes, and which will not be marred by an unfair restriction in the amount of the industrial product.

TOPICS FOR CLASS DISCUSSION

1. What is the economic basis for the eight-hour day?
2. Is the eight-hour demand any more reasonable now than it was a hundred years ago?
3. What is the effect of an eight-hour day on workers?
4. What is the effect of an eight-hour day on the quality and quantity of the output?
5. What attitude should the community assume towards the eight-hour day?
6. Is there an economic basis for the restriction of output?
7. What is the effect of restriction on the consumer?
8. Should the restriction of output be tolerated?
9. Why is pace setting resorted to?
10. What is the effect of pace setting on the worker?
11. What is the effect of pace setting on the product?
12. Should pace setting be tolerated?

CHAPTER LII

STRIKES AND LOCKOUTS; BOYCOTTS AND BLACKLISTS

I. Strikes and Lockouts

THE strike is an organized cessation of work initiated by the employees for the purpose of enforcing their demands or of resisting demands of the employer. The lockout is a cessation of work initiated by the employer for the purpose of enforcing his wishes regarding relations with his employees or of resisting their demands.

From the standpoint of the employer, the employee, and the general public, there is practically no difference between the strike and the lockout. In the one case the employee initiates the cessation of work. In the other case it is initiated by the employer. In both cases, however, work ceases, and the effects of the cessation of work are as serious in one instance as in the other. For all general purposes the arguments applied to the strike may be applied with practically the same force to the lockout and *vice versa*. In this discussion the strike only will be taken up and analyzed, since the analogy between the two is apparent to all.

There are three points of view from which the strike will be considered: first, the point of view of the employer; secondly, the point of view of the worker; and thirdly, the point of view of the general public.

Whether the strike succeeds or fails, it curtails the output of the factories or mines involved. From the standpoint of the employer this is a bad thing, because it removes his source of profits. It is also injurious to him, because through a

protracted strike his customers are forced to go elsewhere to secure what they want, and as a result they are gradually alienated from his business. During the anthracite strike of 1902, for example, large numbers of firms, being unable to secure anthracite coal for manufacturing purposes, remodeled their furnaces to burn bituminous coal and after the strike was over never resumed the use of anthracite. This is but an illustration of the general tendency in many strikes and lockouts.

In spite of police regulations and of the efforts of officials, the amount of property destroyed in many strikes is considerable. While no certain estimates can be made, the destruction in some strikes runs into the hundred of thousands of dollars. Most of the property loss falls on the employers, and is a very real item in estimating the effects of strikes upon them.

In a strike of long duration the employer is very apt to find at the end that many of his best men have gone to work for some rival. The winning of the strike may not compensate for the disintegration of his labor force.

If a strike is won by the strikers and a raise in wages is secured, the added labor cost makes a serious item in the budget of the employer. From many standpoints, therefore, the employer is opposed to strikes. They are against his interests.

Looked at from the standpoint of the worker, the strike is somewhat different in its effects. It is one of the most effective weapons which the workers at the present time possess in securing from the employer increased wages, decreased hours, and better working conditions generally. On the whole, it is fair to say that most of the concessions that have been secured by the workers have been obtained through the medium of strikes, or threatened strikes.

At the same time the strike is a calamity to the average worker. Wages stop at once, and while the union men may be supplied with strike benefits, these are in most cases

inadequate to meet the former demands of the family. Unless industry is booming, it is often difficult for a large body of striking men to secure employment elsewhere in their lines. Many times the active leaders of the strike, and often all who participate at all in the strike, are discharged when work is resumed. If these men live in a small town depending upon one or two industries, it is practically impossible to again secure work in that town. The strike may well be described as a "mingled joy" to the employee. On the whole, he is benefited by it, and yet to secure this benefit he must often suffer a loss in wages, with its resulting hunger and privation.

But besides labor and capital, the public has a deep interest in the question of strikes and lockouts. It is on the public that the burden of these industrial wars ultimately falls. A strike curtails production. This means that the public will have less to consume during the ensuing period. Very often, as in the anthracite coal strike, the strike results in a temporary increase in prices; and where strikes are successful they are very often followed by a rise in the price of the product to cover the increase in wages which the strike brought about.

The destruction of property, the law breaking, and the general violence incident to strikes are some of the most serious menaces to public welfare. Anything which increases law breaking or disregard for the welfare of society is essentially harmful. The strike with its law-breaking tendencies often has a distinctly lowering effect upon the tone of public morals.

Speaking generally, the strike has resulted in raising the standard of many people. To that extent it is a good thing. It keeps alive in the popular mind the thought of the necessity of change and progress, and to that extent it is a good thing. The question which it is necessary for the public to ask itself is, has this increased standard of living and this suggestion of progress been purchased at too high a price? It is probable that the answer to this question will be, yes. Looking

at the strike from the standpoint of the general public, it is, as a whole, disastrous, just as war, from the standpoint of humanity, is disastrous. Both are uneconomic, though perhaps sometimes necessary.

The burdens of all forms of conflict, whether they be race, military, or industrial, rest upon the community. It is the consumer who makes good the loss by paying higher prices. If the standard of living for the masses can be raised and progress insured without resorting to strikes, public interest requires that they be minimized, if not eliminated. Some people see in compulsory arbitration a solution to the problem. A discussion of this point will be reserved for a later chapter.

The laborers themselves are coming to realize that strikes are costly. The progressive leaders resort to strikes only in the last extremity. They have come to believe that the strike is apt to do more harm to the cause of labor than it does good. It is far more useful as a threat than it is as a weapon. The rise of employers' associations during the last few years and the great funds which they have raised to fight strikes make the settlement of disputes by strikes a method not only costly to labor and capital, but to the public as well.

II. Boycotts and Blacklists

A boycott is an organized refusal on the part of a group of persons to buy goods from another person or group of persons. The boycott is the weapon of the worker and of the general public. Occasionally it is used by business houses against each other, but in general it is confined to the workers and the general public.

The blacklist is the weapon which the employer uses against his workers. As in the case of the boycott, the blacklist is often used by one business interest against another business interest, but in general it is an employer's weapon. Both boycott and blacklist are organized efforts. They are illustrations of group action.

For clearness, a boycott may be divided into several classes. First, there is the simple boycott in which a group of workers who have been working for a certain man refuse to buy his products. Boycotts usually originate in this way, but they soon extend to the second form, or compound boycott.

In a compound boycott the workmen directly interested in injuring the boycotted person or persons enlist the co-operation of third parties. Instead of the employees of John Smith merely getting together and refusing to buy his hats, they go out into the highways and byways and advise their friends, relatives, and neighbors not to buy hats made by Smith.

The third form of boycott is negative in its effects. It takes the form of a fair list or white list. The union periodical prints a list of firms which are described as "fair," that is, union hours and union wages obtain throughout their plants. The Consumers' League also publishes what they call a "White List," which is a list of firms which do not violate factory laws and which conform to certain regulations prescribed by the League.

The fourth form of boycott is the "unfair" list or as it has been called, the "we don't patronize" list. The labor periodical, instead of publishing the names of firms who provide fair conditions for their employees, publishes the names of firms who do not provide fair conditions.

The second form of boycott is regarded as a conspiracy. The fourth form of boycott has been prohibited in some cases by the courts. Both forms have developed remarkably and their use has become quite extensive. The power which labor derives from using them is in some cases very great. Since some recent court decisions, however, the effectiveness of the boycott from the standpoint of the worker is materially lessened.

Is the boycott uneconomic as is the case with the strike? Can it be justified on any line or reasoning? Perhaps not, and yet it is a time-honored institution. In colonial times

our forefathers boycotted whatever English goods were distasteful to them. They boycotted fellow-townsmen who were supposed to have pro-English sympathies. To them the boycott was an effective instrument in securing their rights. The boycott is likewise one of the most effective weapons of the trade union. The fair list, moreover, assists manufacturers and employers who desire to maintain good conditions. The unfair list helps to force manufacturers either to adopt fair conditions or else go out of business. Both of these ends are desirable ones.

The blacklist has been extensively used in past years. Groups of employers in the same business have made out lists of employees who had made themselves objectionable, either through union activity or for some other cause, and to these men they have refused employment under any consideration. This means they must seek a new trade or else starve. It is thus an effective weapon in the hands of the employing class against the union.

TOPICS FOR CLASS DISCUSSION

1. Why do men strike?
2. Give the historical development of the strike.
3. Is the "strike" spirit a good one for the community?
4. Is any one helped by strikes?
5. On what grounds can the strike be justified?
6. Can the "strike" spirit be eliminated?
7. What attitude should the community take toward strikes?
8. What is a boycott?
9. Give some historical examples of boycotts.
10. Is the boycott spirit a good one?
11. Is any one helped by the boycott?
12. What is the relation between the boycott and the blacklist?
13. What is the effect of the blacklist on industry?
14. What attitude should the public assume toward boycotts and blacklists?

CHAPTER LIII

THE INJUNCTION IN LABOR DISPUTES

An injunction may be defined as an order of the court commanding a person or group of persons to refrain from doing the thing or things specified in the order. It is issued by a judge on the ground of preventing damages which would be irreparable if the case were permitted to go through the regular processes of law.

The injunction has so often been used of late in labor disputes that the expression "government by injunction" has become a current phrase in the community. The injunction is invariably used by the employer. He finds it a most effective means by which to control the actions of strikers. In every strike, as has already been pointed out, some kind of coercion is resorted to. This coercion varies from the peaceful visit to a strike breaker's house, and an argument which aims to convince him that he should join the union or at least cease breaking the strike, to the riot or some other form of physical violence against the person of the strike breaker. In many strikes the violence extends to the property of the employer as well as to the body of the strike breaker.

In both cases the employer finds his quickest and surest remedy in an injunction, commanding those concerned in the strike to refrain from the actions which are resulting in the destruction of the employer's property, or in the injury to his business by persuading or forcing strike breakers to cease work.

The injunction is effective because it must be obeyed absolutely. There is no process of law involved in forcing this obedience. The court is the direct agent of the executive and legislative authorities in this respect, and its orders are backed up by all the power of the State or nation.

The punishment for offenses against injunctions are limited only by the discretion of the court. There is no limit governing the severity of penalties, other than the desire of the judge to enforce obedience to his orders. The penalties may be reviewed by a higher court, but the latter hesitates to overrule the attempts of a colleague to punish "contempt of court."

While the injunction is thus cited by the employer as the most valuable and most effective means of protecting his property against strikers, it is in the same proportion opposed by the labor union. The injunction has proved a most effective weapon in overthrowing union control. The power of the union rests on two things: first, the right of the members to bargain collectively with the employer; and second, the power to enforce demands by a strike which has at least a reasonable chance of being successful. The use of the injunction to restrain the strikers has taken from them the opportunity of resorting to many acts which were ordinarily used as the weapons for winning strikes. By decreasing the possibility of successful strikes, the court has decreased the possibility of effective trade unions. The foundation of the trade union is at stake, and the whole energy of the union is bent against "government by injunction." In proportion as the employers have resorted to injunctions and secured from the various courts an extension of its scope, the various unions have opposed its use constantly and bitterly, and have been for some time endeavoring to secure a federal law which would prevent the forms of injunctions which have been so disastrous to labor union interests.

In the Pullman strike, an injunction was used against the leaders of the strike, and as this injunction was issued by a

federal court (the United States mails were being interfered with), it was enforced by a resort to federal troops. A judge has recently enjoined a labor union against publishing a list of the "unfair" establishments; that is, establishments which do not provide union hours, wages, and other union conditions for their employees. The uses to which the injunction may be put are countless.

There are few ways in which the State or national government can be directly and speedily drawn into a controversy between the employers and employees; and except in large cities, local governments are apt to be powerless in time of labor troubles to protect life and property. It is therefore to the interest of the employer to have troops brought to the scene. The injunction is the only means of accomplishing this, and is therefore eagerly sought on every occasion and is as eagerly opposed by the men who are seeking to win out against their employer. It is resented as placing all unionists in the light of unthinking animals.

The courts formerly issued injunctions in a limited number of cases, and then only in cases where there was proof that a continuance of the act complained of could not be recompensed in damages by a recourse to the ordinary processes of law. In this stage of the use of the injunction the courts did not enjoin in any case where the complainant had a clear remedy at law. If, however, no such remedy was afforded, action by the courts was always forthcoming. The injunction thus used proved to be a very valuable adjunct to the methods of judicial procedure.

In the last fifteen years, however, the use of the injunction has been placed on an entirely different basis. Labor unions have been enjoined from doing almost every imaginable thing. In the case of the Pullman strike, the injunction commanded "all other persons whomsoever who are not named therein from after the time when they shall severally have knowledge of this order." This is a "blanket injunction" as it has come to be called. It affects thousands of

people without naming them directly, and subjects them to extreme penalties if they presume to violate the orders of the court.

Any person seen violating the order would be brought before the court by officers and fined and imprisoned or punished in both ways to any extent at the discretion of the court. There need be no trial by jury or any other process of law. The whole affair is in the hands of the judge who issued the order. By this method of procedure, one man sitting as judge has in his hands an unlimited amount of power, which the original framers of the Constitution probably did not intend to lodge in the hands of any one individual or department.

The cause of the development of injunctions in labor disputes is obvious. The American process of justice is proverbially slow. It rests in the hands of the local constable. If he is unable to handle the situation he summons the sheriff. If the sheriff finds himself unable to cope with the problem he may call upon the governor of the State who sends in the State militia. It is only after the State militia has failed, that the governor of the State or the State legislature may call in federal troops.

All of these processes are, however, slow. The sheriff cannot act alone. He must summon a large number of deputies, arm them, and get them to the scene of the trouble. Neither can the governor at a moment's notice place at the scene of trouble the State militia. That body must be ordered out. The members must leave their respective positions, prepare for service, and then be transported to any portion of the State where trouble may have arisen.

In Pennsylvania a plan has been developed which obviates this difficulty. Four companies of State constables are stationed in different parts of the State, subject to the call of the governor. In general, throughout the country, this part of the law enforcing machinery is of the most primitive character.

Not only are the processes slow, but the local officers, such as the constable, sheriff, and in many cases even the governor, are strikingly influenced by the fact that the men against whom the injunction has been issued and against whom their aid is invoked are the voters who have put them in office, and to whom they must look for a second term if they desire it. When the electorate is acting concertedly in a strike or other demonstration, the elected officers are slow to give an order which will make them unpopular with their constituents.

The slowness and unwieldiness of the system leaves the employer in a position where he sees his property being destroyed by riots and strikes without any possibility of redress. The sheriff is inactive or slowly getting ready for action and the whole situation is in a turmoil. Even could the extent of the damage be proved it is useless to bring action against the trade unions. They have no available funds. This is a case of "irreparable injury," and following the custom of issuing injunctions the courts begin to issue orders restraining the action of strikers in cases of industrial conflict.

Such a use of the injunction is in a direct line with the precedent ordinarily set down. It is in the abuse and not in the use of the injunction that the courts have encountered the bitter hostility of the working classes. As has already been mentioned, instead of enjoining specific individuals against performing specific acts, the courts issue "blanket injunctions" against performing any act which will injure in any way the property of the person who is complaining. In this use of the injunction the court often enjoins acts which are clearly in themselves illegal and for which there is an adequate remedy in criminal law. What is needed in such cases is not a new legal process but an enforcement of the processes already established.

The arguments in favor of the injunction as at present used, can be summed up thus: —

(1) The judiciary of the United States is a court of last resort in any action. The judge has really the final say in all cases, and it is therefore reasonable that in all cases where real and irreparable injury will result if immediate action is not forthcoming the courts should take such action. There is no other agency provided in the machinery of government which is capable of coping with the question except the court.

(2) Property rights are the fundamental rights of the country. It is upon the sacredness of private property that the government and the institutions which accompany it have been developed. If this feeling of the sacredness of property is broken down, the institutions and the government will be endangered. It is, therefore, proper that every means should be taken to protect property rights.

(3) Many unions are wholly irresponsible and the employers can in no way compensate themselves in damages for the property destroyed by them. Outside of the large cities, great damage is done by strikers in a short time. Before the ordinary processes of law can be evoked, property is destroyed.

(4) The ordinary processes of law are not adequate. In the first place they are too slow, and in the second place the officers who are elected and sworn to enforce the provisions of the law fail signally in their duty. They desire to make peace with the voters who elect them rather than to enforce the law.

(5) The only adequate remedy and safeguard of property interests is a court injunction, to be enforced by all the power of the law. Such an order commands respect and furnishes a guarantee of the stability of society.

On the other hand, those who are opposed to the use of the injunction in labor disputes hold that: —

(1) The injunction does away with the constitutional guarantees of the Bill of Rights. In criminal cases every person is entitled to a speedy and public trial by an impartial

jury of the State and district where the offense has been committed. He is entitled to be informed of the character of the accusation made against him, to be confronted with the witnesses against him, to have the privilege of obtaining witnesses in his favor, and to have counsel for his defense. The ordinary injunction proceeding violates all of these guarantees. In the first place, injunctions are issued to cover cases already made criminal by the law. The offenses are, therefore, offenses against the criminal law primarily, and the offender is entitled to the rights set forth in the Constitution. In spite of this fact, injunctions are issued by judges upon the request of one party, without giving due consideration to the arguments of the opposing party. Any violation of the injunction so issued is punishable by any penalty which the court may desire to inflict, without resorting to legal methods.

(2) The lodging in the court of such extensive powers makes the courts executive as well as judicial bodies. In our government of checks and balances, it was intended that the executive, legislative, and judicial functions should be distributed among the several branches of the government and that the various branches should exercise each its designated functions. The belief of the founders of the government was that if one branch was permitted to secure control over the functions of another branch, the result would be either executive tyranny such as is exercised by a despot, or judicial tyranny as was exercised by a Star Chamber. When the court assumes not only to interpret the laws but also to execute them, it is taking to itself executive functions and is setting a precedent dangerous to the free institutions of the community.

(3) It follows from this that the judiciary will become either tyrannical or contemptible. If the injunctions are enforced and the court assumes executive as well as judicial functions, the result will inevitably be tyranny. If the injunctions are not enforced, those against whom they were

issued will acquire a wholesome contempt of the law and legal proceedings. In either case the effect is undesirable.

(4) Blanket injunctions are a violation of the rights of American citizens. If injunctions are to be issued they should be directed against specific persons, ordering them to cease doing specific acts. The blanket injunction, covering activities, is a dragnet which sweeps in good and bad alike.

(5) As the injunction has been used, it causes bitter feeling against the government in all its branches. It is unwise for any branch of the government to resort to methods which are unfair and which lead to well-founded hostility.

The agitation in favor of an anti-injunction law has been carried on vigorously. As yet no definite progress has been made, but it is evident that the time is approaching when the question will have to be settled as to whether the court is to be a judicial body and interpret the law, or whether it is to become executive as well, and execute the law. It is well established in history that any system which centralizes executive control in the hands of men not elected by the people, and not directly responsible to them, is dangerous to democratic institutions. The use of the injunction as it has developed is opposed to the fundamental ideas on which the American government is founded. The attitude of some judges has placed the whole judicial system in an unfavorable light before the community. If the constitutional guarantees are to be lived up to, the present use of the injunction in labor disputes must be considerably curtailed.

TOPICS FOR CLASS DISCUSSION

1. What was an injunction originally intended to cover?
2. Why has the injunction been applied to labor disputes?
3. Justify the application of the injunction to labor disputes.
4. What is the attitude of the union toward the injunction?
5. What is the attitude of the employer toward the injunction?

6. What are the chief arguments advanced by the union against the injunction?
7. Is the injunction as used in labor disputes against public policy?
8. Who benefits most by the injunction?
9. Upon whom does the burden of the injunction fall most heavily?
10. What should be the attitude of the public toward the injunction?

CHAPTER LIV

THE TRADE AGREEMENT AND ARBITRATION

Trade unions are the means which the worker employs to provide himself against bad conditions. The strike and the threat of a strike are among the most powerful weapons available to the union in enforcing its protests and demands. In many ways the strike is recognized as detrimental to all concerned. Can some means be devised whereby the worker will be fairly treated, while at the same time production is not constantly interrupted and society thrown into disorder by the recurrence of strikes? In the section on Strikes and Lockouts an attempt was made to point out the fact that employers, the public, and the more advanced labor leaders generally recognize the fact that the strike is uneconomic and wasteful. To the employers and the public it is a calamity. To the laborers, even at best, it has its disadvantages. The loss in wages, the bad feeling, the discharge, and the rising prices, all come back to the striker to convince him that the strike, even when it is successful, has been paid for at a very high figure.

With such general concurrence of opinion as to the undesirability of strikes, it seems that some method of avoiding them could be easily devised. Many schemes have, in fact, been proposed, and they group themselves under four headings, the first of which is the trade agreement. The trade agreement is merely a collective bargain. Once a year or once every two years a committee appointed by the employers meets one appointed by the workers, and these two committees go over the question of wages, hours, and working

conditions, discuss the outlook, and decide on the conditions which shall govern the trade during a period of a year or for as long as the agreement may be made. At the end of this time another session is held, the committees go over the ground again, and endeavor to reach a conclusion for the succeeding period. This method of avoiding strikes has proved effectual in many cases which involved reliable unions, such as the railroad brotherhoods, the boot and shoe workers, the miners' unions, and many others. But the public in general is wholly unfamiliar with this phase of the situation.

For this reason many people have a wrong impression of unions. They believe that they are organizations which are led by wild-eyed walking delegates, and which spend half their time in quarreling with the employers and the other half in striking and rioting. This impression is derived from the scare headlines of the newspapers, and in truth it represents a very accurate summary of the news items respecting the unions. As a matter of fact, however, not one union in five ever gets into the daily newspapers at all.

If the lives of all citizens were judged on the basis of those whose pictures appear in the papers after they have wrecked a bank, attempted suicide, or done some other "sensational" act, the average citizen would be placed on a distinctively low plane. Unions, however, are often judged on precisely this ground. A strike involving a riot is printed and commented upon ten thousand times. A peaceful settlement of differences is scarcely noticed.

A large number of union differences are settled quietly by means of collective bargains or trade agreements for specified periods, which are renewed from time to time as they fall due. Scarcely any of these pacific methods of settling strikes and disorders receives particular notice in the daily press.

If it can be put in practice, the collective bargain is after all the ideal method of settling labor disputes. No outside force need be imposed, and the two parties by going together

can settle their differences in a way satisfactory to both. Now and then a disagreement and a strike may result from this method of bargaining, but as a rule it works in a most commendable way.

The second form of strike preventive is the voluntary submission of the points at issue to an arbitration board of three members, one appointed by the workers, one appointed by the employers, and the third selected by these two. This method of settling differences is much less satisfactory than the trade agreement, as the conclusion is reached by third parties who are not always directly interested in the problems, and both of the contending elements may therefore be dissatisfied with the result. This form of voluntary arbitration is negligible in its importance so far as labor disputes are concerned.

The third form of strike preventive is the voluntary State board of arbitration. This form, which has been fairly well worked out in some of the American States, provides that the governor of the State shall appoint a number of men in the various districts who are always prepared to act as a board of arbitration, provided one or, in some cases, both of the parties in the controversy request the State board to act. Except in a few cases this form of arbitration is likewise unsatisfactory and is seldom resorted to.

The fourth form of strike preventive is compulsory arbitration, a distinctively Australasian experiment. Under this method of settling difficulties, strikes and lockouts are forbidden under penalty. When industrial questions arise, they must be submitted to the properly constituted local authorities, who decide the points at issue in exactly the same way that a court of law decides legal points. The advocates of this system of compulsory arbitration hold that it is just as ridiculous to allow a trade union and an employer to fight out their differences as it would be to allow a man whose contract had been broken to go out and thrash the man who was guilty of breach of contract. In both cases

the power of the State should be invoked to punish the offender and to do justice to the person injured. The Australasian system is merely a system of individual judiciary worked out on the same principles as the law courts and having jurisdiction over disputes between employer and employee.

It has been very seriously proposed to introduce into America the system of compulsory arbitration. Its advantages are obvious. Strikes and lockouts are rendered impossible, and thus the evils attending industrial stoppages are eliminated. All parties are given a fair hearing before an impartial tribunal, the members of which have had an opportunity to study in considerable detail the various questions arising in labor controversies. Under this system it is not possible for workers to enforce unfair wages, nor is it possible for employers to force workers to accept unfair wages or hours.

By those who oppose it the system is characterized as un-American in that it is interfering with the rights which an American citizen believes he should possess of making contracts and doing other things which he sees fit, without being responsible to the courts for any such action. Nine tenths of the people of the United States, probably, hold a view that a system of compulsory arbitration would subject men to an unnecessary amount of legal supervision. At the same time a considerable group of the workers in the community distrust the system because of the political elements which would probably enter into it. For the present, therefore, the system of compulsory arbitration is impossible in the United States, and although it has proved a remarkable success where it has been fairly tried, it is probable that for some time to come we must struggle on in America, making the best headway we can with the trade agreement and the various forms of voluntary arbitration which have proved far from satisfactory heretofore.

TOPICS FOR CLASS DISCUSSION

1. What is a trade agreement between employer and employee?
2. What is the value of the trade agreement in settling labor disputes?
3. Describe the forms of voluntary arbitration.
4. What are their respective advantages?
5. As between the trade agreement and arbitration, which is the more desirable?
6. What is the New Zealand system of compulsory arbitration?
7. What advantages and disadvantages does the union see in compulsory arbitration?
8. What advantages and disadvantages does the employer see in compulsory arbitration?
9. What advantages and disadvantages has compulsory arbitration for the public?
10. Of the various methods advocated for settling disputes between labor and capital, pick out the one you think is the best and tell why.
11. Should the State or the federal government take the lead in settling industrial disputes?

CHAPTER LV

THE TRADE UNION

CONSIDERED historically, the trade union, as such, is a development of the nineteenth century. While some authorities seek to trace a forerunner of the trade union in the guild system, industry was never sufficiently centralized until the nineteenth century to provide a field for great trade-union activity. With the development of the factory system and the centralization of the working population in large shops and towns, unions began to grow.

There is no certain record of a union in the United States before 1803, when there was a strike of the New York Society of Journeymen Shipwrights. Before 1850 the activity of the unions was widely diversified and covered all kinds of reform. They worked for the abolition of slavery, the establishment of woman suffrage, and nationalization of the land, as well as for the ordinary objects for which trade unions stand, — the increase of wages, decrease of hours, and bettering of working conditions. Between 1850 and 1865 the movement to nationalize unions grew in strength. Their policies were also narrowed and their activities confined to the more particular union involved. The unions began by trying to reform many evils, but gradually settled down to a policy of attempting only a specific group of reforms. Since the Civil War the tendency of the unions has been to unify their efforts and make their demands concrete. It is since the war that the great development of trade unionism has taken place.

Following the establishment of trade unions on a national scale after 1850, unions of all kinds of workingmen were

organized with a central control. The first movement had endeavored to unionize the men in some one trade, such as typographical workers or the railway employees, on a national basis. The latter movement aimed at organizing the workers of the entire country. The International Association of Workingmen was begun in 1864. In 1866 the National Labor Union was formed. In 1869 the Knights of Labor were organized, and the International Brotherhood in 1873. In 1881 the American Federation of Labor was established. All of these unions are of little or no importance at the present time, with the exception of the American Federation of Labor. Its success has been phenomenal, and it has succeeded in affiliating with it a majority of the trade unions of the United States. Unlike the Knights of Labor, which was a semi-secret organization, controlled from a central office, the American Federation of Labor permits most of the control to be exercised by the local unions, and requires that only the greater questions be referred to the Federation.

The officers of the Federation act in a consulting rather than in a directing capacity. In that fact lies the germ of their success. Local affairs cannot be directed from a central point without violating some of the rights or privileges of localities. In the United States no union seems to succeed in the long run which fails to recognize this principle.

Until recently unions were organized in some particular trade, hence the name "trade union." The carpenters, the bricklayers, or the typesetters each had a union, open to that specific trade only. The last quarter of the nineteenth century has witnessed a radical change in this respect because of two recent developments. In the first place the division of labor and specialization in industry so split up the various trades that there were no "trades" in the old sense left. A cabinetmaker ceased to be a cabinetmaker and became a "dowel sticker" or a "gluer" or a "lathe man." This splitting up of trades makes the old-line trade

unions impossible. Along with this breaking up of the old-type trade, large numbers of common laborers came into the country. These could tend the various machines which replaced much of the old hand labor and which required little skill to operate. It became apparent that if the unions expected to maintain their existence and do effective work, they must secure control of this great mass of common laborers.

Thus the breaking up of trades and the growth of a large common labor force compelled the "union" to abandon its old "trade" character and become a "labor" union, including men in all kinds of trades, provided they belonged to the same industry. The United Mine Workers of America includes miners, door tenders, dumpers, laborers, drivers, trackmen, and men from a number of other trades. This is one of the best examples of the modern "industrial" unions. It is organized on an industry basis and not on a trade basis. Though but an outline, the foregoing description of the growth of unions in America is interesting because it indicates a tendency in unionism to grow toward democracy and home rule in local affairs, with a centralized organization to deal with national affairs only. It also shows the growth of the big industrial union, as opposed to the narrow trade union.

The value of labor unions is great, though one may not be able to approve of all things done in the name of unionism. In the first place, it is valuable to its own members. A general impression prevails that a very large proportion of the workers of the United States are members of unions. This is not the case. It is probable that not more than 15 or 20 per cent of those engaged in trade, transportation, and manufacturing and mechanical pursuits belong to the unions. If this estimate is correct, the American unions show a membership of somewhat over 2,000,000. Exact statistics are not available, but be this as it may, there is a large group in the community which benefits directly through its mem-

bership in the trade unions. The foreigners who come to the United States do not at once join the union. In Europe their freedom of action has often been seriously restricted, and they dislike new institutions. In the course of a year or two, however, many of them come to see the value which will accrue to them by joining the unions, and they accordingly enter them. The associations and the education in the principles of democracy which membership in a union affords are of inestimable value to the immigrant.

It must be remembered that the more advanced unions are distinctly democratic organizations. Their members have the fullest power through referendum votes, and are far better represented as a rule than the members of the average political group. The foreigner coming into this democratic environment learns more in a year about the value and purpose of representative institutions than he would in the political community in the course of the rest of his natural life. In the union he has teachers who teach because they value intelligence. In the community at large few care whether the immigrant learns or remains ignorant. The union is almost alone in giving to the adult immigrant an education in the use of English and of the institutions of a democratic government.

The desire of the immigrant to take part in the proceedings of the union and to understand what is going on there is a great incentive for him to study English. His association with other men teaches him many things about his new country which would never have come to his attention had he not entered such a group. The average foreigner who comes to America is very prone to remain among his countrymen, to speak his own language, and to retain his own customs and manners. This creates in the country a series of groups not easily assimilated and therefore opposed to the development of a homogeneous community. The union presents an efficient means of breaking up this tendency and of establishing among foreigners the idea of true democracy.

The chief incentive for workers to join the unions is, however, furnished by the desire to increase wages, decrease hours, and secure better working conditions. It is for these things that the battles of unionized labor are usually fought. A history of unionism shows many activities having for their end an increase in wages, a decrease in hours, and better working conditions. Success has often attended such efforts. This is particularly true in places where the unions have a virtual monopoly, as in the building trades of some of the cities, the typographical trades, and other similar industries in which skill, a limited field, and a limited supply of men give great monopoly power to the union.

In addition to the benefits which are secured by the average members of the trade union, in the form of better working conditions, many of the unions provide accident benefits, sickness benefits, insurance in case of death, and benefits for those out of work. Each member of the union pays in a small sum, and when any member is in trouble, the fund thus created is called upon to aid him. In England these benefit features of the unions have become far more prominent than in this country. There the trade-union problem has been fought out and settled rather definitely for some time. In the United States, however, the exact status of the union movement is not so fixed.

Trade unions are, then, of value to their members because they increase wages, decrease hours, secure better working conditions, and provide various forms of out-of-work, accident, sickness, and other insurance benefits that make life more certain and enjoyable to those who share in such bettered conditions.

While it is unquestioned that the trade union is of value to the worker, the average member of the community fails to see the trade union as an instrument of any advantage to the employer. Nevertheless, the union affords certain advantages in which the employer also shares, although they are much fewer in number and less in importance than those

secured by the union members. The average union, conservatively conducted, brings together and keeps together a homogeneous and efficient group of men, and by the existence of a high standard of membership provides for the employer a better group of workmen than he could otherwise secure. The work of the union, which results in education and in the development of ideals in the foreigner, is as advantageous to the employer as it is to the union man himself. The more intelligent the labor, the more efficient it is.

From the standpoint of the general public the union is often condemned. Nevertheless, here too are advantages. In the first place, the members of the union are members of the general public, and if their wages are raised or their hours shortened or any of the other working conditions made more desirable, a portion of the general public has been bettered.

Furthermore, the tendency of the union to educate and assimilate men makes of them better citizens and therefore personally more competent to carry on the work of the country. The raising of the general tone of certain groups of the working population which has been accomplished solely by union action is a distinct gain for the public. On this phase of the question, however, very little is usually printed. The emphasis of union items is laid upon the wrongfulness of the strike and wickedness of the boycott and the general undesirability of the weapons which the unions use to enforce their demand, or what they consider their rights.

It remains for us to state the objections which are often urged against unionism. In the first place, it is maintained that unions tend to equalize the pay received by good and bad workmen, thus taking them from the skilled members of the group the incentive to do better work. By reducing the work to a standardized measure, and permitting men to do only so many pieces of work in a given time, much interest is taken out of the work. The union substitutes loyalty to the union for loyalty to the community or to the employer.

All these things are viewed as detrimental to the union man himself.

From the standpoint of the employer, however, the disadvantages urged are even more numerous. In the first place, business is stopped by strikes and disturbances, and the employer is subject to the constant annoyance of having other people "trying to run his business." In the second place, the output of the plant is curtailed by the union man's refusal to do more than a certain amount of work per day. In the third place, the union man is loyal to the union and not to the employer, and as no man can serve two masters, the employer feels slighted. In the fourth place, where the union has secured a dominant control, which in some cases amounts to a monopoly, unjust demands may be made and enforced in the shape of unusually high wages and annoying working conditions.

From the standpoint of the public the disadvantages of the union are rather obvious. Public attention has been frequently called to the stoppage of industry, the curtailment of output, and, more serious than all, the breaches of public order. Furthermore, from the standpoint of the general public the loyalty to the union is often placed above loyalty to the general welfare. Thus far the discussion of the union has been confined to certain specific problems. It now remains to summarize briefly the whole movement and to add a word about certain recent developments.

Since the middle of the nineteenth century the activity of the unions has been directed along more distinctly industrial lines. Before that time all kinds of problems and reforms were dealt with. By concentrating, the unions have brought more pressure to bear at definite points, and have thus made their work far more effective; although child labor laws, sweat shop laws, and other laws of unquestionable benefit to the community as a whole are the result, not only in part, but often wholly, of the labor unions' influence.

The chief activities of the unions have, however, been

directed toward securing for their members a fairer share of the product of industry. They attempt to do this through (1) increase in wages, (2) decrease in the number of hours, (3) a bettering of working conditions, and (4) an organization that will through education enable the members of the union to see their responsibilities and privileges. Generally speaking, it is fair to say that the main object of unionism has been an increase in the economic well-being of the members who join the union. This advance has often been felt by labor as a whole.

The attempts by the unions to secure a fairer share of the products of industry have led to an emphasis being laid on the right of collective bargaining, the necessity of the closed shop in furthering the collective bargain, and the strike, the boycott, and various forms of coercion. On the employer's side the lockout, the blacklist, and the injunction have been relied upon to oppose what the self-interest of the employers felt were unwarranted demands of labor.

So long as the unions were organized on a national basis and the employers were either unorganized and competing, or else only organized locally, the power of the unions was great and many concessions were secured. In some cases it is said one employer would pay a labor leader to call a strike on a competitor for the purpose of embarrassing him, and then no sooner had the union secured concessions from one employer than it turned to the others, demanding the same concessions. As the employers were competing and the employees were combined, the latter fought it out individually with employer after employer until they had won an all-around victory.

But two can play at almost any game. The unions organized on a national basis, so did the employers; and the American Federation of Labor now faces the National Association of Manufacturers. When the union alone was organized on a national basis, its power was almost unlimited. With the organization of the employers, however,

the union finds that it can accomplish more by gaining the strength of public opinion on its side than by blindly opposing its strength in strikes with combined manufacturers' strength in lockouts. It is during the last ten years that the National Association of Manufacturers, the Citizens' Industrial Alliance, the Citizens' Industrial Association, and employers' associations generally have been organized and put on a firm basis. The most prominent of these is the National Association of Manufacturers, representing most of the prominent manufacturing interests of the country. In 1907 a fund of a million and a half dollars was agreed upon as a requisite amount for the expenditures necessary for the next three years in carrying on their campaign of education. They stand opposed to many union practices and desire to see an increase in technical education throughout the country. The expenditure of a million and a half for printing tracts and delivering lectures, and the like bears ample testimony to the fact that no association, no matter how strong or wealthy, can long succeed if not backed by the weight of public opinion. As a result of this recent movement of organization on the part of the manufacturers, the unions have lost some of their former monopoly powers. In their contests they, too, are now forced more and more to look to the support of public opinion for aid. Both sides to the industrial controversy can no longer rely on mere brute strength to win out.

Perhaps in no better way can the line of recent development of unionism be pointed out than by quoting the three paragraphs from *The New Basis of Civilization*, by Professor Patten: —

"Utilitarian in its motive, and passionately selfish in its singleness and intensity of purpose, it [modern industrial unionism] has a social and ethical significance that is without parallel in the institutions of democracy; it is the first coalition of the economic powers of the basal men and the high-grade, skilled workers. During the last century labor organ-

ization could not have been included among the resources available for the civilization of crude masses, because it was not the chief purpose of the leaders of the early trade unionism to secure the rewards of his work to the common laborer. The heavy balance of power lay with the labor aristocracy of artisans and craftsmen, the skill of the individual being more valued in European industry than the advantages of the machine process; the craftsmen therefore banded against the leveling encroachments of the more unpracticed toilers, and their trade unions were obstacles that served with other forms of class domination to keep the unskilled on a static plane. The philosophy of the early leaders, who limited membership to skilled groups within a single trade and sought to control output by rigorous exclusions, seems comparatively negative in comparison with the positive and constructive theories now directing unionism.

"The men who began the opposite movement in America have recognized that the foundation of industrial civilization is being built by unskilled hordes, and they seek to retain control of the ground already won by enlisting all comers in its defense. The unionization of an entire industry and its affiliations in other industries gives them the primary advantage of numbers. Labor leaders say that the best way to lift the structure is to raise the base, and they are willing to insert the lever beneath the lowest stratum of labor. The man who has joined one of the unions formed within the last six years learns that his 'lot is bound with that of the whole working class,' and 'that he can no longer advance by building a monopoly of labor within his trade.' The lines of industrial caste must break in order to give the class which has the numerical power free admission into the ranks above it. When the unskilled are a majority within the union, moreover, the advance must be timed by their intelligence and adaptability.

"The changes in method which this dominance involves are indicated by the remarkable shifting in the union per-

sonnel. The total membership has more than doubled since 1898–1899; but while the old type of union or skilled workers shows a gain of a little more than 50 per cent, the newer group, composed of relatively unskilled laborers, has had a total growth approximating 300 per cent. 'The reasons,' says Mr. William E. Walling, 'are the increasing proportion of unskilled workers in the industry, the decreasing sharpness of definition of the line between the skilled and the unskilled trades, and the greater ease with which the occupations of the skilled can be learned by the unskilled.' Within the last three years the American Federation of Labor has marshaled three hundred thousand immigrants under lieutenants who drill them to march shoulder to shoulder behind the American standard of living. Although it is a utilitarian motive that incites the smaller and wiser groups to lead the huge weak one, and a selfish reason that urges them to unify the crowd lest all be involved in rout, there is none the less a spiritual advance. The inchoate and stubborn bands arrive first at the meaning of class consciousness and of its ultimate development into social solidarity; then they are given an educative social discipline; next they acquire an orderly and obedient mobility; and it is but a short step thence to the rights of leisure and of developmental recreation."

From the general discussion in this chapter it becomes apparent that though one may firmly believe in the union principle, it does not necessarily follow that he must approve all its actions. The union is an institution composed of men struggling for better conditions of life for themselves and families. It is accordingly subject to all the errors of which human judgment is capable under such circumstances. Unions have come to stay, and few people, including the National Association of Manufacturers, if one may judge from their public statements, would see the labor union abolished, and the good that they have accomplished in the line of better working conditions, restrictions of women and child labor undone.

TOPICS FOR CLASS DISCUSSION

1. Point out the significance of the attempts to nationalize unions.
2. Is a union justified from the standpoint of the workers?
3. If you were a coal operator, would you wish your men to join the United Mine Workers of America?
4. Can any distinction be drawn between the unions which workers should belong to and unions which they should not belong to?
5. Show the value of the union to the public.
6. Is the union against public policy?
7. Should the union be compelled by law to incorporate?
8. Should union activity be restricted to the payment of benefits and the education of members?
9. Should union activity be permitted to interfere with industry?
10. What is the significance of the entrance of the union into politics?
11. What would be the ideal outcome of the union movement in America?

CHAPTER LVI

METHODS OF COÖPERATION

THE coöperative movement was started in northern England by a few poor weavers of Rochdale. Each of these men advanced a small amount of money and the whole was invested in a bag of flour, which was then divided among the investors at cost price. By this means retail quantities of flour were secured at wholesale prices.

From this small beginning, with a sack of flour as the object of the coöperation, the movement has grown until it numbers its coöperative societies by the thousands. In memory of its originators the coöperative society having the system in charge is called "Rochdale Pioneers."

As the society was organized in its early form, each member paid in from $5 to $25 as his share of capital in the coöperative store. Four times a year each member received $1\frac{1}{4}$ per cent on his investment, and each year $2\frac{1}{2}$ per cent was set aside for educational purposes. The surplus over and above these amounts was credited to the members of the society, in the proportion of their purchases during the preceding three months.

In this way each member received 5 per cent on the money he had invested in the enterprise; a minimum sum was raised for educational purposes, and at the same time a direct incentive to purchase was provided by giving the surplus to the largest purchasers. As no attempt was made to sell goods at a low figure, it was possible for members to share in the advantages of the coöperative movement only by

purchasing at the coöperative store. The more they purchased, the more surplus they secured.

In the middle of the nineteenth century the Christian socialist movement was organized, and one of the things which they laid most emphasis on was coöperation as developed in the Rochdale system of coöperative stores. The leaders of the Christian socialist movement applied all their energy to pushing forward the coöperative movement. Owing in a great measure to the help which the Christian socialist lent to the movement, it has developed, until to-day there is in England a network of wholesale and retail cooperative stores which do an annual business of several hundred million pounds. The movement has spread well over Europe and has become very general in Germany, Belgium, Holland, Switzerland, and Italy. Nowhere, however, has it assumed such proportions or exercised so great an influence as it has in Great Britain.

The earliest record of coöperation in the United States is furnished by the coöperative movement among the New England fishermen in 1730. In 1752 the Philadelphia Contributorship for the Insurance of Houses from Loss by Fire was organized. This voluntary organization was a crude beginning of mutual fire insurance. Benjamin Franklin was the first director of the society. From that time on the coöperative movement developed generally in the form of insurance societies, building loan associations, coöperative stores, coöperative colonies, and other similar associations. Certain phases of coöperation have had a very thorough development in the United States. It is probable that coöperative credit associations have been more extensively developed here than anywhere else, and in no country have so many coöperative communities been organized.

In 1845 the first protective union store was organized in Boston. A dozen persons with "the faith of God in their hearts" purchased a box of soap and a half a box of tea. Out of this small beginning grew the New England Protective

Union, which had developed in 1851, 403 divisions, of which 165 reported aggregate sales for the year of $1,696,000. Dissensions crept into the ranks, and by 1860 the association was practically defunct.

The next wave of coöperation was dominated by the Patrons of Husbandry, an organization formed primarily for the benefit of rural districts. In 1875 there were 24,000 "granges" or local sections of the Patrons of Husbandry, with a membership of 764,000. The members of each locality, or grange, formed themselves into a purchasing club, and in each State an agent made the purchases for all the clubs in that State. In one year (1875) the Ohio agency saved the members of the granges $240,000 by its wholesale buying.

The Sovereigns of Industry was a society formed to do for the ordinary worker what the Patrons of Husbandry was doing for the farmers. This movement grew to great proportions, but like the Patrons of Husbandry suffered seriously from a lack of business system. Repeated attempts were made to have the Rochdale System established by all of the local centers. These efforts were in most cases unsuccessful.

In the '80's both the Patrons of Husbandry and the Sovereigns of Industry were on the wane, and the Knights of Labor took the field, declaring for the "establishment of coöperative institutions, productive and distributive." Little was accomplished of a definite character, and the order declined without having greatly advanced the cause of cooperation.

This represents the last organized movement toward consumers' coöperation. In the field of producers' cooperation, in 1876, the Patrons of Industry had thirty manufacturing associations, whose capital ranged from $200,000 to $500,000; 16 gristmills, one of which produced 100 barrels of flour a day, 3 tanneries, and 6 smithies.

The Knights of Labor attempted to organize on a large scale boot and shoe companies, painters' and decorators'

associations, clothing companies, tobacco factories, mining associations, and others. Nearly all these attempts failed.

The most successful form of producers' coöperation at present in existence is the coöperation in creameries. All through the agricultural districts creameries exist, run advantageously on a coöperative basis. With this exception, producers' coöperation in the United States is practically dead.

There are certain advantages and disadvantages of cooperation which have been brought out by the various efforts to establish coöperating societies. In consumers' coöperation the following are the chief advantages: —

1. The small trader is eliminated and thus a very important item in profits is deducted from the price of the commodities. By wholesale buying the coöperating member of the group either gets goods at reduced prices, or else shares in a surplus at the end of the year.

2. The coöperative store is guaranteed a loyal constituency because only through it can the coöperator secure the advantages of coöperation in the form of divided surplus. It is therefore to the interest of the coöperating members to patronize the system of which they are a part. With a guaranteed constituency the movement, if efficiently managed, is practically sure of success.

3. The democracy underlying the coöperation idea is so manifest that an inferior quality of service will be tolerated in view of the democratic principles involved. Men are willing to put up with a great many inconveniences and annoyances in "our store" that would not be tolerated in the store of Jones or Smith.

4. Through a knowledge of the customers' needs, and through saving of advertising, the expenses of the carrying on of the business are considerably reduced. This is particularly true where the management of the enterprise is honest and efficient and therefore prepared to avail itself of the advantages offered.

5. The stores are apt to be more serviceable in many ways because they are being run for the advantage of the community and not for profits. The manager is, of course, attempting to produce a large surplus for his constituency, yet there is not the same attitude that there is in a privately managed enterprise.

In view of the advantages to be derived from the customers' coöperation, it seems surprising that the movement has not developed more fully in the United States. There are four good reasons for this lack of development: first, the country is so large and the interests of the various sections so diverse that it has not been possible to develop such a general movement as that in Great Britain. In the second place, in the modern American city retail stores have been organized on a large basis, and a great many of the petty annoyances and petty profits of the old retail system have been eliminated. The grocery companies managing a score of grocery stores throughout a city, or the department stores catering to many thousands of individuals daily, have put retail business on a more scientific basis and have reduced prices to such a low figure that the coöperative stores would have difficulty in competing. In the third place, in the retail business in America private business has proved to have advantages in economy far above those possessed in the coöperative business. Fourth, producers are strongly organized, and in all probability would be able to crush out coöperative undertakings by a refusal to sell to them.

Nowhere has producers' coöperation succeeded so signally as consumers' coöperation; and in general producers' cooperation has proved more or less of a failure. For this there are two reasons: —

1. The productive enterprise is much more difficult to manage and requires much more initiative and business ability than coöperation in consumption. The reason for this is perfectly obvious. In the case of a store the constituency is located in the immediate neighborhood, and their

loyalty can be maintained by dividing up the surplus in proportion to purchases. In the case of coöperation in production, however, under modern business conditions, the producer must produce not for any given locality, but for the State or for the nation at large. Under these circumstances it is impossible to keep a homogeneous, loyal constituency. One of the great bulwarks which supports consumers' coöperation is thus eliminated from any system of producers' coöperation.

2. The other reason for the failure of producers' coöperation is the difficulty encountered in securing capital and skilled managerial ability. The coöperators expect to secure for a low figure a high-priced man, and they uniformly fail because private industry invariably bids in, at a high figure, the able men, leaving the less able ones for the lower-paying coöperative enterprises.

As the movement has developed, the field for coöperative production has narrowed down until it embraces practically nothing except the few rapidly decreasing industries where workingmen are all on the same basis, where little outlay is necessary for tools, where the business is operated to supply a constituency limited as to size and area, and where the factory system and division of labor cannot well be installed. In industries where such things as candy, cigars, and other like goods are manufactured, a certain amount of success has attended coöperation in production. Otherwhere it has proved a dismal failure in this country.

TOPICS FOR CLASS DISCUSSION

1. What is consumers' coöperation?
2. What are the reasons for its success in England?
3. What are the reasons for its failure in the United States?
4. What is producers' coöperation?
5. Why has producers' coöperation generally failed?
6. What is the relative importance of producers' and consumers' coöperation?

CHAPTER LVII

THE RESULTS OF COÖPERATION

COÖPERATION refers to the voluntary association of persons in joint production, consumption, distribution, or purchase.

At the outset coöperation must be distinguished from socialism and from communism. Socialism involves State ownership. Coöperation is developed through individual initiative, and is wholly independent of the State. Communism, on the other hand, means coöperation in production, consumption, and distribution. Communism applies the theory of coöperation to all forms of economic activity, whereas the average advocate of coöperation takes up only one or at most two forms of such activity. Those who favor coöperation believe that individuals should associate to accomplish one or two things in common, while the communists hold that not one alone of the factors involved in maintaining economic society, but all of them, should be developed in common.

It will thus be seen that coöperation is neither socialism on the one hand, nor communism, on the other. It occupies a middle ground, which might be described as fragmentary communism. At the same time coöperation must be clearly distinguished from profit sharing. Profit sharing, which will be taken up in a later section, is a movement initiated by the employer. Through this movement the employer gives to his employees a portion of what they create. Coöperation, on the other hand, originates with the worker, and the purpose of coöperation is to secure for the worker all that he has created. In the case of profit sharing, the employer does

something for his employees. In the case of coöperation, the employees do something for themselves.

There are three kinds of coöperation: First, coöperative banking, through coöperative banks, building societies, assurance societies, and the like. This is a very underdeveloped form of coöperation, and yet it is everywhere prevalent, notably in lodges, fraternal societies, and building societies. The chief purpose of this coöperation is the securing of certain results, such as death benefits and sick benefits, which enter only slightly into the activities of the ordinary man. While the development along these lines has been extensive, it is not vital.

The second kind of coöperation, which has never been developed extensively in the United States, but which has been put on a firmly established basis in many European countries, is coöperation in consumption. The principal type of this coöperation is the coöperative store, which was described in the preceding chapter.

The third form of coöperation is coöperation in production, — either in agriculture, manufacturing, or some other mode of creating utilities in economic goods. In coöperative production the coöperating parties furnish their own capital, and the results of the sales of goods produced are divided among the participants in the coöperative movement.

It has already been pointed out that coöperation is an essentially democratic thing, while profit sharing is essentially paternalistic. At the beginning of this chapter an attempt was made to distinguish coöperation from socialism and communism. Nevertheless, they have certain things in common. If carried to its logical conclusion, and applied to the leading phases of industrial activity, coöperation would result in the overthrow of the present wage system. The essential thought underlying the wage system is that each worker bargains to sell his labor for an amount believed by him and by his employer to be a fair compensation for the

work done. Followed out and generally applied to industry, coöperation would supersede wage payment. Men would be compensated, not in accordance with a wage contract, but in proportion to the amount of goods produced by society. Those who advocate coöperation as a reform for present industrial difficulties do not conceive of the movement in this way. They regard it as a thing apart from socialism or communism, yet its essential, underlying principles contain something common to both of these movements. While the ordinary person coöperating in a coöperative store or building association does not look upon the matter in that light, some of the more advanced promoters of coöperative enterprises regard the coöperative commonwealth as the ideal end of their movement. In such a utopian commonwealth all the industrial activities would be carried on coöperatively, and the scheme would differ little from the ideal of the average communist.

This system of coöperation would give to each of those interested in the project a greater amount of freedom of action and a certain amount of discretionary power as to what things should be done by the enterprise. In contrast with such a system, where men share on a democratic basis, systems of profit sharing are usually employed for the purpose of attaching the workers to the employer and preventing them from taking any action detrimental to his welfare. Through coöperation, all of the advantages derived will go to the workers. Through profit sharing, only a small percentage reaches them.

From this statement it will readily be seen that if coöperation is to be developed scientifically, the following essentials must be present: First, all of the profits of the enterprise must be shared by those engaging in it. This is opposed to profit sharing, in which only a portion of the profits are shared among those engaging in the enterprise. Second, autocratic power to dictate the conditions of industry must be removed from the hands of a few. Under the present sys-

tem a small group of men decide industrial policies. The idea of the coöperators is that the majority, and not the minority, should decide the more important questions relating to the business policy of the establishment with which they are connected. Advocates of this thought hold that the average man is just as interested in industrial questions as he is in political questions. Indeed, the industrial questions are, if anything, the more fundamental. Every one should therefore have a voice in disposing of these questions. Third, by thus placing industry on a democratic basis it would give the worker a real say in the method of carrying on the business, and thus give him an interest in its development and success that is not supplied in any profit-sharing system.

The advocates of coöperation have regarded it as a sure remedy for the social problems which so many are striving to solve. While the system has nowhere been given an extensive trial, it is fair to say that, looked upon as an adequate remedy for our social ills, coöperation has proved a failure. With the exception of coöperation in such enterprises as building loan associations, assurance societies, lodges, and similar societies, and the considerable success attending the consumers' coöperation in England and some parts of the Continent, the coöperative system has furnished very little ground for hope that it will prove an immediate relief or an ultimate remedy for the many ills which beset us.

Consumers' coöperation and coöperation in banking or financial enterprises have succeeded in certain instances; but their success has aided only the small percentage of any group who were members of the societies, and even then, with the exception of some coöperative stores, it has not aided them in any of the more vital affairs of life.

Producers' coöperation has uniformly failed, except in some unimportant industries where the competition of private capital was not active. If coöperation is to furnish an adequate remedy, it must succeed in production, and there, more signally than in any other place, it has failed.

To be of value in solving present social and industrial problems, coöperation must be in a position to regulate the conditions under which workers work and the share of the product of industry which each worker receives. Consumers' coöperation can provide only for the welfare of that portion of the working group which comes into direct contact with its stores and other enterprises. For the masses of the workers it can do nothing.

Could producers' coöperation be made effective, it would be able to meet both the problem of working conditions and the problem of prices; but producers' coöperation has never proved a big success, owing to the difficulty of securing the requisite ability in the management of such enterprises.

The whole problem might be summed up by saying that none of the forms of coöperation which have developed successfully can to any extent regulate the prices of commodities to the consumers nor the wages of the workers. Hence from the standpoint of a remedy for our present system of unequal distribution, coöperation is essentially weak. Consumers' coöperation has met with some success, but producers' coöperation, the more important of the two, has succeeded on the side tracks rather than on the main line of industry. Those who are seeking a remedy for social ills must look elsewhere than to coöperation to provide one.

TOPICS FOR CLASS DISCUSSION

1. What is the underlying principle of coöperation?
2. What are the chief advantages of coöperation?
3. State the leading objection to coöperation.
4. Is coöperation practicable? Why or why not?
5. What steps would be necessary before coöperation could be generally established in the United States?
6. Is coöperation beneficial to the average citizen?
7. What effect would coöperation have on the *entrepreneur?*
8. What effect would coöperation have on the manager and the boss?
9. What effect would coöperation have on the wage worker?
10. What relation does coöperation bear to democracy?

CHAPTER LVIII

METHODS OF PROFIT SHARING

THE system of profit sharing is one which guarantees to the workers a specified share of the profits of the business in addition to the regular wages. It is necessary to distinguish profit sharing from coöperation and gain sharing. In cooperation all enter on an equal footing and divide the proceeds. The movement is voluntary and democratic. In gain sharing the wages depend upon the product. This system exists in some of the fishing ventures. Profit sharing presupposes the payment of wages, and shares only the net profits in a certain predetermined proportion.

There are several methods of profit sharing, of which the most prominent are: —

1. A system of deferred participation in profits. Under this system a percentage of the profits is each year credited either to the entire body of employees as a unit or to specific employees. In the cases where it is credited to the employees as a unit, it takes the form of a provident fund. In order to share in this fund, the employee must be sick, injured, or subject to some other distressed condition which makes the payment of benefits desirable. In case the profits are credited to the employees individually, they receive their share of the profits either when they attain a specified age, remain a specified time in the establishment, or suffer an unusual pressure from sickness or accident. This system has been most extensively developed in France. In English-speaking countries it has met with little success.

2. A second method of profit sharing is that of stock ownership by employees.

In cases where the employee buys the stock, paying the full market price for it, there is evidently no profit sharing in its true sense, though such a system is often described as profit sharing. The employee is in no different relation to the company than is the average investor. In cases like that of the United States Steel Corporation, however, the problem is a different one. Here the company sold stock to the employees at a special price. While this is an approach to profit sharing, it is not profit sharing in the true sense of the word. It is only where the stock is given outright to the employee that it can be fairly said that the business is on a profit-sharing basis.

3. The method of profit sharing most generally adopted in England and the United States is the cash bonus. The portion of the profits to be divided is paid to the employees in proportion to their wages or salaries and the number of hours' work for the year.

The system of profit sharing was started in France by a house painter and decorator named Edné Jean Leclaire. He was born in 1801, near Paris, the son of a poor shoemaker. He was apprenticed to a house painter, and at the age of twenty-six he started in business for himself. On his first job he made a handsome profit, although he paid his men five francs a day instead of the usual four francs.

Leclaire formed a mutual aid society for his men and desired to make some provision for them in their old age. There was one great drawback, however; the business did not produce a sufficiently large surplus to enable him to do much for the men.

In 1885 a friend told Leclaire that the only solution was through a system which would pay a portion of the profits directly to the men. Leclaire refused to believe this. In the meantime his business had grown tremendously, as his men had a reputation for sobriety and good workmanship. In 1840 the thought came to Leclaire that while the present business could provide little surplus for the men, it might

be possible by an industrial partnership "to create, by the common effort, in view of the division of profit, and with the energy so called forth," a further amount of product which would not only increase the bonus to the workmen, but would increase the profits of the employer as well.

In 1843, after careful preparation, Leclaire tried the scheme. His workmen were at first suspicious, but when in February forty-four of them received 12,266 francs, then suspicion vanished, and they took up the work with a will.

The "Maison Leclaire" is now a great industrial partnership. The mutual aid society of Leclaire has become a partner in the business and holds half of the capital of 400,000 francs. The other half is held by two partners, chosen by the men. The workmen receive unusually high wages and sickness and accident benefits.

The system thus started in the Maison Leclaire has been applied in a modified form to many other forms of business. Perhaps the most interesting example of profit sharing is furnished by the Bon Marché, one of the largest retail establishments in the world. In 1876 the system was inaugurated by a provident fund, which was to be supported out of the net profits. The amount of the payment is fixed by custom, not by agreement.

After an employee has served with the firm for five consecutive years, an account is opened for him or her in the provident fund, and each year a portion of the net profits is credited to each employee in proportion to the amount of wages received during the year. On these credits interest is computed at 4 per cent. Any male employee who reaches the age of sixty or who has completed twenty years of uninterrupted service, and any female who is fifty years of age or has completed fifteen years of uninterrupted service, is entitled to draw out the full amount in the provident fund. In case of death, the amount standing to the credit of the employee is at once paid to the relatives.

In 1877, at the death of the founder of the Bon Marché, his

widow took steps to admit into partnership with herself ninety-six heads of departments, each of whom invested a sum of money in the business.

So much for profit sharing in France. To Leclaire belongs the distinction "of having done more than any other one man to work out the details and demonstrate the practical merits of industrial partnership." He established the first really successful profit-sharing establishment.

In England profit sharing was tried at the Whitwood Collieries, Yorkshire, from 1865 to 1875. During this period the system was heralded as furnishing "the standard examples of just relations of master and man, to which every writer on labor felt bound to devote attention."

The Whitwood experiment proved a failure, owing to the fluctuations of demands for a price of coal and to trade-union activity. The failure gave profit sharing a setback in England from which it did not recover for a generation.

TOPICS FOR CLASS DISCUSSION

1. What different methods are there by which profit sharing may be carried on?
2. Which of these is the most valuable?
3. What is the relation between profit sharing and socialism?
4. Distinguish profit sharing from coöperation.

CHAPTER LIX

THE OUTLOOK FOR PROFIT SHARING

THE previous chapter has dealt with the general principles of profit sharing and its success abroad. After all, however, the important question for the American student is: "What has been done and what can be done in America?"

In 1869 the A. S. Cameron Company of Jersey City began a profit-sharing scheme which lasted until the death of Mr. Cameron, years later. On the whole, this attempt was fairly successful. So much cannot be said for the experiment of the Brewster Carriage Company of New York, which inaugurated a profit-sharing plan in 1870, and ended it in 1872, when the workmen struck for an eight-hour day.

There is only one instance of a profit-sharing scheme surviving for any considerable length of time in the United States. That is the Peace Dale Manufacturing Company, whose successful organization of profit sharing dates from 1878. The scheme is not a full-fledged system of profit sharing. No set proportion of net profits is paid, nor is there any obligation on the part of the firm to pay any bonus. During some years as much as 5 per cent on wages has been paid. In other years nothing has been paid, as the business conditions did not seem to warrant it. The company states that "we cannot say that the scheme has had any noticeable effect as yet upon the help, their efficiency or interest." In contrast with the experience of the Peace Dale experiment, Mr. Samuel Cabot, a manufacturing chemist who has tried profit sharing for about twenty years

in Boston, says: "My observation has convinced me that the spirit of my employees is superior to that of the average, and that they are more contented and willing by far than in similar establishments. In fact, I am satisfied that this bargain has been a good one for both parties to it, and that the extra money laid out has been well and profitably invested."

The N. O. Nelson Company, manufacturers of plumbing goods, pays its employees a bonus in stock. The original plan gave to the employees a cash bonus, but the firm became convinced that the increased wages due to the cash bonus "would mean in most cases a rise in the scale of living, which would have to be forcibly reduced" in the absence of such a plan at a future time. As the main object was to provide for the future, a system of stock payments was substituted for cash payments. On the whole, the American experiments have been on a small scale, few in number, and in only a few cases adopting a true profit-sharing system.

In their *Labor Problems* Adams and Sumner have the following to say regarding profit sharing: "Profit sharing, though a palliative applicable with good results in certain industries and under certain circumstances, holds forth no promise of an ultimate solution of the labor problem. In the first place, it frequently injures and antagonizes the concerted efforts of workingmen to better their own conditions of life through labor organizations. Moreover, profit sharing has no sufficient economic foundation and is, consequently, incapable of wide application. Thirdly, the principle itself is open to serious objections. Nevertheless, it has attained notable results in numerous instances, and the causes of its success and failure are certainly worthy of the most careful examination."

Looking at the question of profit sharing as it is applied in the United States, what are the chief reasons for its failure to show results? The system of profit sharing through deferred payments has certain very evident disadvantages

from the American standpoint. In the first place, the thought underlying the system is that a given employee will remain for a long period of time under one employer. This is distinctly not the case in modern American industry. The group which a noted economist has called the "peripatetics of industry" is assuming a more and more prominent position in American industry. This group moves frequently from one place of employment to another, and would be unable to see the advantage of the deferred payment system which would mean nothing to them.

Again, the system works best in trades where workmen are highly skilled and intelligent. In the average American industry a common labor group is coming more and more rapidly to the front. This group works with its hands and neglects its head. The deferred-payment system would not appeal strongly to its members. At best, business is uncertain, and the average employee does not relish the idea of working on the deferred-payment plan for a firm which may become insolvent at any time, and thus remove all chance of a share in the fund of profits. The system of deferred payment has met with a fair degree of success in France with her stable industries, but the reasons for its failure to gain headway in the United States are rather evident.

The system of sharing profits with employees by giving them shares in the company or by requiring them to be owners of the company's stock before they are allowed to share in the profits has never met with great favor. The latter system particularly is well-nigh out of question for the lower grade of wage worker who has a family dependent on him. He needs every penny, and it is difficult for him to get ahead sufficiently to purchase the stock of the company.

It is difficult to operate a system of giving stock to employees that will be fair to all. It must be based on length of service to some extent, and therefore makes little appeal to the "peripatetics of industry."

The purpose of giving stock to employees or for requiring them to purchase stock in order to share in the profits, is evidently to give the various employees so strong an interest in the business that they will do all in their power to further its productiveness and general welfare. An employee who holds stock is attached to the company in a way that curtails his freedom of action. This system has not met with great favor in the United States.

The system of paying to an employee his or her share in the form of cash, appeals more strongly than either of the other two, and if any system is to succeed in the United States it will be one based on a cash bonus basis.

Profit sharing involves little departure from the present system of industrial remuneration. It will be remembered that coöperation, carried to its logical conclusion, involves the complete overthrow of the wage system. Profit sharing retains all of the features of the present wage system and adds on an extra feature — a sharing of the net profits. It will, therefore, be seen that profit sharing does not involve any such radical changes as does coöperation, or most of the other remedies proposed for industrial ills.

TOPICS FOR CLASS DISCUSSION

1. Where has profit sharing succeeded most completely?
2. What has been the success of profit sharing in the United States?
3. What is the attitude of the average employer toward profit sharing?
4. What is the attitude of the average worker toward profit sharing?
5. What attitude does the public take toward profit sharing?
6. What is the object of profit sharing?
7. Who benefits most by profit sharing?
8. Does profit sharing lay an extra burden on any one?
9. Has profit sharing accomplished what it aimed to accomplish?
10. What is the outlook for profit sharing in the United States?

BOOK X

CHAPTER LX

INTRODUCTION TO ECONOMIC PROGRAMMES

THERE was a time in the history of political economy when to write on economic programmes would have been viewed not only as fantastic, but as absolute heresy. The fathers of our science were imbued with the belief in unalterable economic laws. They traced, or imagined they found analogies between the laws of physics and economics. To their theories they gave the same broad application and immutability that the physicist applies to the law of gravitation. They handed down their opinions in the terms of most far-reaching law. Of such were their statements of the "Iron Law of Wages," The Wage Fund Theory, Ricardo's Theory of Rent, The Law of Diminishing Returns, The Doctrine of Free Trade, and the Law of Population as stated by Malthus.

To them it was preposterous to think of trying to overcome the operation of deep fundamental economic laws. They were natural laws. To place artificial, man-made law in the same category showed lack of wisdom. Laws of nature are automatic, and to stop their operation was deemed as futile as trying to stop the flow of the Thames.

Accordingly, we find England in the eighteenth, and early in the nineteenth century, repealing, one after another, all laws which were held to impede the free play of economic principles. Granting of bounties, restriction of foreign trade, and statutes whose ends were the regulation of the relation between employer and employed, were repealed, and

the age of *laissez faire* was ushered in. The government put into practice what for a generation the economists had been teaching and advocating — the abolition of all restraints on the automatic operation of economic laws. Under this régime it was held not only wise but necessary that each person be allowed to pursue his own interest uninterfered with by the government, or any other agent or agency so long as he did not violate the king's peace.

With the science of Economics upholding such views, it is easy to comprehend why the earlier books on the subject omitted all reference to economic programmes. There were none needed. Economic law was supreme. A programme, on the other hand, is a man-made device, and implies action. It is positive, not negative, as was the *laissez faire* view of government.

A fair trial was given to this let-alone policy, and things happened which not even the belief in immutable economic laws could countenance. Conditions of life became intolerable and inhuman for millions, as the following from Cheyney's *Industrial and Social History of England* indicates: —

"Children began their life in the coal mines at five, six, or seven years of age. Girls and women worked like boys and men, they were less than half clothed, and worked alongside of men who were stark naked. They worked from twelve to fourteen working hours in the twenty-four, and these were often at night. Little girls of six or eight years of age made ten to twelve trips a day up steep ladders to the surface, carrying half a hundred weight of coal in wooden buckets on their backs at each journey. Young women appeared before the commissioners, when summoned from their work, dressed merely in a pair of trousers, dripping wet from the water of the mine, and already weary with the labor of a day scarcely more than begun. A common form of labor consisted in drawing on hands and knees over the inequalities of a passageway not more than two

feet or twenty-eight inches high, a car or tub filled with three or four hundredweight of coal, attached by a chain and hook to a leather band around the waist."

Contrary to the theory of *laissez faire*, one law after another was passed in England looking to the welfare of her workers and the future of the race. The theory of *laissez faire* died a natural death. It had been tried and found wanting. Since then England has passed measure after measure to meet the various problems as they arise.

When the theory of *laissez faire* dominated men's minds, there was little doubt as to the programme of action. With such a theory of government, public opinion must inevitably be agreed as to the line of State action. When, however, the *laissez faire* theory was once for all overthrown, unanimity of opinion could no longer obtain. In place of the simple policy of letting each man look after his own interests, there are in this country at least five distinct lines of reform which are presenting their respective claims for the thoughtful consideration of the American people. To-day people have not the common basis of agreement that the *laissez faire* theory afforded. As a result, in place of one programme, we now have five.

Great as has been our material prosperity, one cannot fail to realize that we have far from attained an ideal civilization or anything as good as we have a right to expect. Poverty, disease, and crime are still dread realities. Questions of labor and capital loom up demanding prompt and thoughtful consideration. Corporation control, tariff revision, and railroad discriminations are but a few of the momentous problems still awaiting our solution. To the discussion of the remedies for many of these evils, the remaining chapters of this book will be devoted. The most important programmes now generally advocated in this country group themselves under the five following heads, which will be discussed in the order named: the programme of the "Square Deal," the programme of Government Regulation,

the programme of the Single Taxer, the programme of the Socialist, and the programme of the Social Worker.

TOPICS FOR CLASS DISCUSSION

1. What is a Programme?
2. What was the theory of *laissez faire?*
3. What was Mercantilism?

CHAPTER LXI

THE PROGRAMME OF THE "SQUARE DEAL"

THE first programme has as its chief spokesman the President of the United States. Mr. Roosevelt has popularized the expression "a square deal" to such a degree that millions of Americans now seek to solve all our problems in terms of "a square deal." The phrase crystallizes a popular idea in a remarkable manner. Because of its popularity, if for no other reason, the programme of the "square deal" deserves thoughtful consideration.

The two following quotations from Mr. Roosevelt give an excellent word picture of the course advocated by those who believe in the "square deal." The one, "All my life I have been striking at evils—here, there; wherever they have shown a head to hit, there I have struck and with all my might." The other, "I know what I want to do now; and I know what I'd like to do next; but after that, I don't know." Such a programme is that of a man of action influenced by the ideal of common honesty rather than that of a constructive philosopher or of a thoughtful student of economic problems. For evident reasons it is a popular attitude and one which cannot be ignored by those who would read aright the signs of the times.

The "square deal" programme judges every case on its own merits, and acts with an eye on the moral issue involved. This is clearly illustrated by the attitude of the administration toward the railroads. Of all abuses connected with transportation, that of discrimination must first be checked. The government should treat all alike, rich or

poor, high or low, and so should its agent, the railroad. The interests of the small shipper must be as carefully safeguarded as those of the big corporation. It is the function of the government to see that all secure a "square deal." Again, there must be no discrimination by the railroads in favor of one locality at the expense of another. All must be treated alike. The traffic between the great west and the eastern seaboard cities must be so apportioned that the "square deal" prevails among cities and sections of the country as it should among individuals.

Again, this attitude is plainly seen in the tariff question. Wherever the tariff wall is high enough to enable a monopoly profit, then it should be leveled to just that point where all are put on an equal footing. The chief consideration should be justice, a "square deal" to the consumer, as well as to the purchaser.

The "square deal" programme endeavors to be non-partisan in disputes between labor and capital. It believes that it is neither a crime to be rich nor a virtue to be poor. Nor does it believe that the fact of being either a capitalist or a laborer guarantees of itself that one is right. In the words of Mr. Taft, a prominent follower of this programme,—"The labor unions are here, and they are here, like the corporation, to stay. . . . And they are needed both by labor and by the rest of us to offset the combinations of capital. They will clash, and when they clash the government must keep order and see fair play." It soon becomes apparent to what degree the follower of the "square deal" believes in the wisdom of the courts or other semi-judicial bodies as an Interstate Commerce Commission. It is with them not so much getting a law or series of laws passed, but rather seeing that existing laws are executed without discrimination. In a sense, he says, let every one look out for his interests as best he can. In all matters, he believes in a system of competition, for in competition he sees the natural method of rewarding the industrious and brave, and of

permitting the slothful and cowardly to feel the just penalty of their acts. But in order that competition shall work out ideally, he insists that men living under a competitive system shall play according to the rules of the game. With the "square dealer" the chief function of the government is to see that the cards are not stacked and the dice not loaded. That it should play the game is foreign to his thought.

In order to realize this ideal in its broadest application, it is part of this programme to educate public opinion to the concept of "smokeless sin" and the needs of a new standard of morality which will not discriminate between the common thief and the juggler of the stock market. It has been only recently in our economic history that we have gone over to the impersonal corporation way of doing business. Under the earlier industrial régime, many of the present important questions of business morality were unheard of. Our honesty was built on a personal, individual basis. We ostracized the man who stole a loaf of bread, or the one who caused the death of another. Under our present system one may rob people of thousands of dollars through franchise grabbing and stock watering, or one may cause the death of many innocent victims by neglecting to provide sanitary tenement houses, or proper fire escapes for his factory, and still escape public disapproval. Our old morality knew how to deal with the old-time offender, and lost no time in doing so. As yet, we have not learned how to cope with the "gentleman" thief made possible by that legal fiction, the corporation.

The programme for arousing public opinion on these matters must, of course, be largely educational. The people must get a better perspective of the real issues involved. But first they must have light. Therefore, the "square dealer" is a strong believer in publicity. Turn on the light. If there is crookedness or underhand dealings let the people see, and then let them judge; but first let them see. The

adherents of this programme have faith in the common people and their sense of honor and honesty. With this belief they advocate any method which will lay the facts before the public. Thousands of persons of the middle class annually lose their earnings and small investments because those "on the inside" of the stock market have the knowledge of conditions and can manipulate the market while those on the outside are in darkness and ignorance. Too few corporations issue financial statements of such a nature that the investing public can profit by them. This is a state of affairs that believers in the "square deal" would like to see prohibited. A compulsory uniform system of issuing periodic financial statements would largely prevent this evil. Proper regulation of capitalization, much as the system now carried on in Massachusetts, would eliminate much, if not all, of the present practice of stock watering.

Usually, advocates of this programme, and many others for that matter, believe that this desired publicity and uniformity cannot be attained if it is left to the action of forty-six different legislatures. Naturally the logical outcome is an enlargement of federal functions. This has been the evolution in railroad regulation. State control having failed, federal regulation was invoked. From a confusing and non-uniform system of accounts, the last amendment of the Interstate Commerce Act has brought order out of chaos and given to the country uniform booking of all railroads doing an interstate business.

There is still another phase of the "square deal" which is worthy of mention, and that is its interest in the future generations. As at any time each should deal squarely with his neighbor, so one generation should deal squarely with the next. To exploit children to-day is to deprive the next generation of the full quota of efficient men to which it is entitled. The child of to-day is the citizen of to-morrow. The "square deal" programme accordingly stands for a restriction of all child labor.

Likewise those to-day using forests and other natural resources have a duty which they should discharge toward those using them to-morrow. It is another illustration of the principle of the "square deal" existing in the dealings of one generation with another. The followers of this programme strongly urge the conservation of our national resources as a sacred duty toward the future.

Having now discussed the underlying thought in a "square deal" policy, and reviewed in outline the embodiment of this principle in such programmes as railroad regulation, tariff reform, corporation control, and conservation of resources, we are now ready to discuss our second plan of economic reform. It is more than probable that the programme here under discussion is now at the height of its popularity, and that from now on we shall hear more and more of the programme of Government Regulation, the subject of our next chapter.

TOPICS FOR CLASS DISCUSSION

1. On which branch of the government does this programme throw the most emphasis?
2. Why is this programme such a popular one?
3. Why has there been a steady enlargement of federal functions in this country?

CHAPTER LXII

THE PROGRAMME OF GOVERNMENT REGULATION

This programme is the kind that both political parties of to-day are advocating. It is similar to the "square deal" programme in that it accepts in the main the present organization of industry. It believes that a thorough-going competitive system is the only means of securing justice to all and that it is the only safe basis for future progress. On the other hand, it is unlike the programme of the "square deal," in that its policies are not founded solely on a popular appeal to common honesty and fair play, but are based upon a knowledge of economic laws.

For this reason it is necessary to digress at this point to speak of the productivity theory of distribution. The fundamentals of this theory must be borne in mind throughout, for it forms the working basis of the programme of government regulation. The productivity theory, in contrast with the theory of distribution already advanced in this book, maintains that there exist certain eternal economic laws which afford to each of the three factors of production, land, labor and capital, a return equal to what each factor respectively creates. If capital is responsible for creating half of a certain amount of wealth, then the return in the form of interest will equal half of the new wealth. The remaining half would be divided between labor and land in a proportion corresponding to the amount of wealth that they respectively created.

Throughout this theory runs the idea of a natural justice which automatically rewards each factor in production ac-

cording to its deserts. If this does not happen, it is because of some man-made law which gets in the way to impede the path of natural justice. The great impediment to the automatic operation of these laws of natural justice is monopoly. Quoting from *Essentials of Economic Theory*, a recent work by Professor Clark, with whose name the programme of government regulation is closely associated, "If anything should definitely end competition, it would check invention, prevent distribution, and lead to evils from which only State socialism would offer a way of escape. Monopoly is not a mere bit of fiction which interferes with the perfect working of economic laws. It is a definite perversion of the laws themselves." Accordingly, every policy of the adherents of the present programme aims to destroy monopoly in some of its many forms and to restore the free play of competitive forces.

The ideal which these adherents have in mind is that reward should equal effort, that pay should equal work. To them it is just as wrong to get a reward greater than the effort as it would be to get a return less than the effort. Only absolute equality between the two is justice, for they contend that if some one's reward is larger than his effort, the reward of some one else must be smaller. Monopoly and exploitation are complementary terms. The existence of one implies the existence of the other. In order that neither may exist, the followers of the productivity school advocate having the government maintain "cost prices." Accordingly, one of the chief functions of government becomes the regulation of prices. And the only kind of prices that the government should sanction are "cost" prices, for, quoting Professor Clark, "only 'cost' prices are just prices."

It is interesting to note, in passing, a contrast between this school of thought and that of the *laissez faire* theory already referred to. Each maintained the reality of deep-rooted, universal economic laws. The latter school held that because of the existence of these natural economic laws, man-made

laws were either useless or else positively harmful. The believers in government regulation, in contrast, call upon the government to step in to remove whatever obstacles arise to the free operation of these economic laws. In their view, the greatest barrier is the presence of monopoly, a phenomenon so immense that individual strength cannot remove it, and therefore collective, or government, strength must be invoked. The introduction of the corporation form of doing business of the gigantic trusts and mammoth combinations among common carriers has inevitably led to government regulation.

It is evident that the word "monopoly" as used in this chapter refers to private monopolies. There are many forms of State monopoly, such as the municipal ownership of street railways, lighting plants, and the like, which hardly share the criticism urged against monopolies of a private nature. The monopoly power here under the ban of disapproval means the ability to so control the production of an article of general consumption that one can make as much or as little of it as he pleases and charge for it whatever he has a mind to, regardless of public interest.

Having thus in mind the viewpoint of those believing in "cost" prices, what concrete measures do they advocate to reach their goal? We shall discuss only three out of the possibility of many. First, in regard to transportation. It is but natural that their attention should be turned in this direction, because of all forms of monopoly the railroad is one with most far-reaching results. By nature of its organization the railroad is a monopoly, and in addition it has the ability of creating many other monopolies. Through discriminations it has often proved the most effective weapon in the hands of certain industrial corporations for driving competitors from the field, thereby making possible for itself large monopoly profits. To prevent the railroad from "charging all the traffic will bear," which is the source of its monopoly profits, the platform of government regulation contains a

plank for the government to exercise the rate-making power. This is a request repeatedly made by the Interstate Commerce Commission and which up until the present has always been denied.

Of course, the basis on which the Commission would act in fixing rates would be the "cost" basis. Railroads would be allowed to charge only that rate which would afford a fair return on the capital invested, no more, no less. If need be to accomplish this end, the adherents of the programme are willing to go one step farther. They maintain that it may even be necessary for the government to undertake a few lines of production. To quote again Professor Clark, the government "may construct a few canals, with the special view to controlling charges made by railroads. It may own coal mines and either operate them or control the mode of operating them, for the purpose of curbing the exactions of monopolistic owners and securing a continuous supply of fuel. It may even own some railroads for the sake of making its control of freight charges more complete. Such actions as these may be slightly anomalous, since they break away from the policy of always regulating and never owning; nevertheless, they are a part of a general policy of regulation and a means of escape from a policy of ownership. The selling of coal by the State may help to keep independent manufacturing alive, and carrying by the State may do so in a more marked way. If so, these measures have a generally anti-socialistic effect, since they obstruct that growth of private monopoly which is the leading cause of the growth of socialism."

Second, in regard to the position of labor. To those believing in the "cost" policy, labor unions are not an unmixed good. This follows from the fact that most labor unions are able to exercise a degree of monopoly power. Whenever they force wages up, solely as a result of this power, and charge for their services "all that the traffic will bear," they are violating the principle that only "cost" prices are just

prices. Professor Clark maintains that there is a "natural standard of wages," and that in case of strikes it is the duty of the government to step in and secure a certain degree of conformity to that standard. He believes that "the State is bound to ascertain and declare what rate is just, to confirm the workers in their positions when they accept them, and to cause them to forfeit their right of tenure if they refuse it. If the workers thus forfeit their claim, their positions are clearly open to whoever will take them, and the State is bound to protect the men who do this." In his recent book, *Essentials of Economic Theory*, Professor Clark devotes considerable space to methods of arbitration whereby the government should endeavor to maintain "cost" prices for labor.

Third, in the field of protection. Wherever protection tends to build up an industry, so that it will ultimately be able to stand alone, the programme for government regulation is in full accord. Wherever it tends to build up monopoly, it is opposed, and stands for revision, either by enlarging the free list or lowering the rate of duty. It recognizes that there is a principle to be observed in protection and that it is not a matter of hit or miss. The duty should be no higher than sufficient to put the American and foreign producer on an equality. If it is higher, it enables monopoly profits. The adherents of the programme recognize the fact that in a dynamic society, protection is economically just, but that if not properly regulated by the government, it may give rise to industrial monopolies.

The attitude of the programme for government regulation on all the modern problems, along with the three just mentioned, can well be summarized in the closing words of *Essentials of Economic Theory:* "The dynamic element in economic life depends on competition, which at important points is vanishing, but can, by the power of the State, be restored and preserved, in a new form, indeed, but in all needed vigor. With that accomplished, we can enjoy

the full productive effect of consolidation without sacrificing the progress which the older type of industry insured."

TOPICS FOR CLASS DISCUSSION

1. What is the attitude of an advocate of government regulation on the question of competition?
2. Is there any rule for determining the limits of State interference?
3. Would an advocate of this programme propose having the State fix rents?
4. What is the view of the advocates of this programme on the subject of the "economics or combination"?

CHAPTER LXIII

THE PROGRAMME OF SINGLE TAX

THIS programme, in common with the two that have been already discussed, aims at securing justice to all by the abolition of monopoly and all other forms of special privilege. In its proposed destruction of monopoly, the Single Tax programme relies upon State action much as does the programme of government regulation. However, it goes one step farther in its policies. The government regulation programme includes in State functions the fixing of "cost" charges for transportation, labor, and tariff-protected commodities, while the Single Tax programme aims at the government ownership and control of land and all natural resources. The public ownership of all free gifts of nature is emphasized, because in the mind of the Single Taxer the system of the private ownership is the basis of all monopoly. He contends that were land and the natural resources as free to all as the air, not only would land monopoly cease, but also the monopoly of transportation and those industrial monopolies built upon a monopoly control of raw products.

The Single Taxer is interested in the destruction of land monopoly because of the effect that he believes it would have upon wages. He maintains that wages can never fall below what a man can earn by working for himself in direct contact with nature. If by mining a man can earn ten dollars a day, then employers must pay wages of at least ten dollars a day. The ability of labor to turn directly to the soil would be guaranteed under the Single Tax. This would make possible a natural standard below which wages could never fall. It is the humanitarian side, *i.e.* interest in the

question of low wages, that has laid the foundation of the programme of Single Tax.

Henry George, in his *Progress and Poverty*, published in 1879, asks the question, "Why in spite of the increasing productive power do wages tend to a minimum which will give but a bare living?" Starting with this question as a basis, Henry George attempts to solve the problem by a change in the methods of taxation.

His theory is not a new one. In the time of Oliver Cromwell, in the middle of the seventeenth century, a man named Gerrard Winstanley headed the "digger movement," which was an attempt to secure to the common people the right to cultivate the common land. Winstanley held that they had a right to it because God gave land equally to all, and all should be able to enjoy it.

In the middle of the seventeenth century the Physiocrats, a school of French philosophers, reached the conclusion that a tax on land alone was desirable because: —

1. The community was composed of a number of individuals, each having similar rights.

2. Each individual is entitled to such enjoyment of these rights as he can secure through his labor.

3. His labor should, therefore, be left unhampered by any restrictions in the form of taxes.

4. In pursuance of these laws, men should be allowed to do whatever will promote their happiness so long as they do not thereby curtail the happiness of others.

5. Only extractive industries, such as mining and agriculture, are really productive. Manufacturing and trade do not create, they merely transform, value.

6. A State should interfere as little as possible with the pursuit of the happiness of its individual members. It should collect its taxes in the simplest manner possible. The tax should be levied on the only really productive factor — natural resources. This ideal is, therefore, a single tax in the form of a land tax.

Winstanley based his doctrine on religion. The Physiocrats based theirs on natural law. Henry George, from the standpoint of social justice, reaches the same conclusion. He points out the fact that in primitive communities there is little difference between the richest and the poorest. In contrast with this condition, where the wealth is greatest, population densest, and machinery most highly developed, there is the deepest poverty. "The tramp comes with the locomotive — and almshouses and prisons are as surely the marks of 'material progress' as are costly dwellings, rich warehouses, and magnificent churches. Upon streets lighted with gas and patrolled by uniformed policemen, beggars wait for the passer-by, and in the shadow of college and library and museum are gathered the most hideous Huns and Vandals of whom Macaulay prophesied."

In these words George attempts to show the relation which now exists between progress and poverty — the latter seemingly an inevitable concomitant of the former. To do away with poverty is his object, and for the attainment of this object he proposes his Single Tax.

Land is permanent and can be neither increased nor decreased in amount by human effort. It is only improvements that are subject to change. If taxes are laid on doors and windows, there will be fewer doors and windows; if taxes are laid on industry, there will be less industry; but taxes on land cannot decrease the amount of land. The present taxing system lays its burden upon industry, which is thereby decreased, or at least checked, instead of laying it upon land, which is unchangeable.

To remedy the anomalous contrasts of progress and poverty, and the manifest unfairness of a taxing system which falls heaviest upon those least able to bear it, Henry George proposes to abolish all taxes save "one single tax levied on the value of land irrespective of the value of improvements in or on it." All other taxes would be abolished, hence the name, "Single Tax."

In discussing the Single Tax, it must be borne in mind that this land tax is a tax, not upon real estate, but upon land itself. Land is a natural resource, something furnished by nature and used by man. Real estate includes both the land originally provided by nature and the improvements made upon it. The Single Tax would be a tax on land values alone, and would take for the use of the State the entire "unearned increment" of land.

What is the unearned increment?

Three hundred years ago the island of Manhattan sold for $24. To-day the land alone, irrespective of buildings, is worth approximately $2,400,000,000. Who is responsible for this increase?

Every year millions of people go to New York, and hundreds of millions of dollars in commerce and trade center around the city; each new railway line carries more trade to New York and hence adds to the value of the island. The presence of this vast population, the development of trade, and the excellent harbor have all worked together to make the value of New York real estate increase by leaps and bounds. The responsibility for the increase rests, not with any man, but with the nation as a whole.

Under the present system this increase or unearned increment goes into the pockets of the few who hold New York real estate. The Single Taxer maintains that this increase should go to the government in taxes, as it is the whole people that caused the land to grow in value.

The Single Tax would cover the full economic value of the land. It would be so high that no man could secure an income by merely holding land. All of the income derived from land itself would be returned in the form of a tax to the government. The income, on the contrary, derived from the improvements on the land would not be taxed at all. Hence the emphasis would be laid on improving land, rather than holding it unused for a rise in value.

In all parts of the country, at the present time, land is

held for speculative purposes. It will not do to rent the land for a term because a sale may be effected at any time. No one will rent land for short terms, because there is too much risk involved. The result is that the land lies idle until the value has increased to a point deemed by its owner a satisfactory selling price. It may then pass on to another owner who will also hold it for a rise in value. The tax system at present in vogue encourages this land speculation by taxing unimproved land less heavily than improved land. A premium is thus placed on unimprovement.

If the tax laws were so framed that it would be necessary either to improve land or let it go, land would not be held unimproved. There would be no land speculation. Consequently a piece of unimproved land would be free to everybody until some one took it and used it. This would prevent land speculation and would give all an opportunity to profit by natural resources. Monopolies basing their power on a control of natural resources would therefore be impossible.

The Single Taxer does not desire to have any new tax laid. The land tax already exists, together with taxes on many other forms of property. The other taxes should be abolished, and the land tax alone retained and increased.

The advocates of the Single Tax do not maintain that it will change human nature. "That man can never do;" but it will bring about conditions in which human nature can develop what is best instead of, as now, in so many cases, what is worst.

By removing the obstacles which taxes impose upon industry, the Single Tax will result in an enormous increase in the productive power of the community. It will guarantee a more equitable distribution of the wealth of the community, because those best able to bear the tax, namely, the landowners, will be those who are forced to pay it. It will open the gates of civilization to every one by doing away

with the labor problem to a large extent and preventing the existence of unearned property.

These are the claims which the Single Taxers advance for their movement. Whether the tax if adopted could bring these changes has not yet been conclusively established.

The advocates of the Single Tax present their arguments under two heads. They hold that the tax is expedient, and that it is just. The expediency of the Single Tax rests upon the following arguments.

It would dispense with an intricate system of internal revenue and tariff collection. By this saving in the mechanisms of taxing, much that is now spent for the purpose of collecting taxes would be left in the treasury. Furthermore, the things now taxed are not generally open for public inspection. Taxes are dodged because there is no way to find how much personal property men have. Land lies in such a position that all may see it. It is therefore practically impossible for a man to escape a tax on his land, whereas it is not only possible, but very probable, that men will in so far as possible dodge personal taxes.

As previously stated, by removing the burdens which are laid upon industry, the Single Tax would increase the productive capacity of the community. All taxes except the Single Tax oppress industry and lessen wealth. Not only would the Single Tax remove restraints upon industry and thus allow a greater freedom in production, but it would bring more land into productive uses, as a rich man would find it difficult or useless to hold land for a future rise in prices. Under the Single Tax, any increased value or unearned increment would go to the State and not to the individual holding the land.

Thus the abolition of taxes on industry and the substitution of a Single Tax would free the active elements in production, labor and capital, and would bring into use more land than is now available for productive purposes. "If any one will look around him to-day and see the unused or

half-used land, the idle labor, the unemployed, or but poorly employed capital, he will get some idea of how enormous would be the production of wealth were all the forces of production free to engage."

The overtaxing of industry and the undertaxing of land is placing in the hands of the landowners of the community an enormous amount of wealth, and at the same time creating poverty among those who do not hold land. The system which creates the millionaire, creates likewise the pauper, criminal, or other parasite which hamper the progress of society.

The Single Tax would fall heaviest on the cities where land values are greatest. This would relieve many agricultural districts which are now heavily oppressed. The taxing of the thickly populated districts in proportion to their ability to pay would in a measure prevent the migration of people from country districts.

Not only is the Single Tax more lenient toward the poor agriculturalist than the present system, but its advocates likewise feel that it will be far more just. In the first place, the right of property does not rest on laws. As the earth was not made by man, but merely supplies a temporary dwelling place for generation after generation, the men born into the world have an equal right to the things which it contains. Therefore, it is not just that a man should take possession of the land and by holding it compel the rest of the world to pay tribute to him.

The natural resources of a nation should be used for the benefit of the entire nation, and this condition of affairs can only be brought about by shifting the burdens of taxation from the majority who do not hold land to the minority who do. Men have a right to hold property, such as tools or houses, which are the result of their own labor, but they have no right to hold the land, which is the result of no man's labor, but is the gift of nature. A tax laid on tools or any other creation of human labor violates a right of property,

because it takes from the man who has created it part of the thing which he has made. The tax on land values, however, takes from individuals nothing that of right belongs to them.

The value of land is not due to the work of men and therefore its value bears no relation to the cost of producing it. The land about New York harbor is valuable because all the people of the country have agreed to transact a certain amount of their business in and about New York. The value which is created in the land as the result of the centralization of business in New York is secured by a few individual landowners. This, maintain the Single Taxers, is manifestly unfair because they did not create the value of Manhattan real estate, nor are they responsible for increasing it, yet the increase goes to them. The created value should be used for the purpose of developing certain community interests. With these properly secured and safeguarded, both wealth and poverty would be at a minimum and the products of the community more equally divided. Such are the contentions of those who maintain that a Single Tax would solve the problem which has perplexed students for centuries.

The Single Tax, as has been pointed out, does not represent an original theory on the part of Henry George. It is the application of the Single Tax to the solution of social and industrial problems that is original with him.

The ideas of Henry George, advanced in the latter part of the nineteenth century, were evolved at a time of the most complex stage of industrial civilization to which the world had thus far attained. Had the theories been proposed for a new and developing country, they might have had more chance of adoption, but they were to be applied to a country whose institutions were thoroughly developed, and whose traditions were set in the opposite direction. Men find it hard to change habits of thought and traditionary ideas, and the scheme of Henry George has proved a failure so far as an application of its principles to the affairs of government has been concerned.

In the first place, Henry George drew his illustrations and ideas from the most extreme cases which existed during the century. He saw the great land grants in California lying idle, while unsuccessful miners clamored for a place to earn a living. He saw the contrast between the high wages incident to the discovery of gold and the low wages which followed the private appropriation of all gold-bearing land. He saw the slums of London, Philadelphia, and New York. He saw the effect on Ireland of absentee landlordism.

The country as a whole did not, however, in the time of Henry George, and does not to-day, present any serious case of landlord oppression such as that which existed in Ireland in the '40's, and which exists in Russia to-day. While the Single Tax method of solving economic problems has received great attention from scholars and thinkers since its statement by Henry George, the doctrines were never applied because there was not a sufficiently active demand for them.

In contrast with the acceptance of the doctrines in the United States and England, it is interesting to note the developments in New Zealand. Before New Zealand was settled to any extent, a few men secured possession of large tracts of land at nominal prices. As the colony filled up with settlers and land became scarce, this land lay idle, held for a "rise" in values. On the one hand were these vast estates unused by the holders, and on the other hand were people unable to secure the land which they wished to farm, crowded together, and living in poverty and wretchedness.

The government solved the difficulty by passing a series of acts which permitted the breaking up of the large estates by high taxation on unimproved land or by repurchase. The act provided for a commission which valued the estates and turned them over to the government, which paid the amount of this valuation. The estates thus repurchased were divided up into small farms and in some cases sold, but in many other cases they were rented for long terms.

In this way New Zealand successfully solved a land prob-

lem which had become intolerable, by methods approximating the suggestions of Henry George. As yet the United States has not been forced into so serious a situation and the demand has not been so strong for a repurchase act. At the present time, however, when public land has practically disappeared, and land resources, particularly those in the forms of mineral wealth, are being centered in fewer and fewer hands, it is certain that a demand for some change of system will make itself felt sooner or later.

Perhaps the most vital reason for the slow growth of the Single Tax has been the rather abstract character of its doctrines. Without question, Henry George's statements of the Single Tax have been effective in modifying the views of economists and thinking persons in general on matters relative to land monopoly and special privilege. It is, on the other hand, undoubtedly true that the average man finds it difficult or impossible to follow the Single Tax theory and see the efficacy of the remedy which the Single Taxer advances. It is not like the labor union movement or the socialist movement, which appeals directly to the people, and from which they can see the possibility of a direct beneficial outcome. The Single Tax is theoretical and requires a trained mind to follow its arguments. For the majority of the community it is merely a name.

Under modern conditions another force has grown up in the community equally important with land in the production of wealth. Machinery has come to stay. The Single Taxer proposes to socialize land only, holding that when land has been socialized the consequent rise in wages will be sufficient to secure to the laborer sufficient capital to further any enterprise in which he may be interested.

As a matter of fact, under modern conditions, with the possible exception of the man who is panning gold and the fisherman or hunter, no man can carry on a productive operation without a considerable amount of wealth invested in capital. The farmer must have machinery and animals.

The woodman must have many tools to convert standing timber into lumber. The manufacturer of almost any staple commodity requires a great mass of capital goods. The miner must be backed by a considerable amount of capital before he can begin operations. In short, all modern enterprises, while deriving their wealth mainly from the soil, must depend intimately upon machinery if they are to be successfully worked out.

The argument of the Single Taxer is that if land were made free, all wages would rise to the level which a man could secure while working on free land. As a matter of fact, before he begins to work on the land in competition with others, the modern worker would be forced to provide himself with machinery. This the average man at present is not in a position to do. Not only would the wage worker need "free land" but "free capital" as well before he could work under present industrial conditions. Of this fact the programme of the Single Tax takes no cognizance.

Henry George attempted to put himself directly into politics. He ran for the office of mayor of New York City against Hewitt and Roosevelt, the former being elected. His death resulted from the strenuous exertion incident to a later campaign in which he again tried for the same office. In politics the Single Taxers have affiliated themselves with the Democrats because the latter stood for a minimum tariff, and the Single Taxers, who hold that no taxes should be laid on anything except land, sided with the party standing for the least tax.

By siding with a large group the Single Taxers have become merged with this group, as a larger group always goes with a smaller one, and while the policies of the Democrats have remained unchanged, those of the Single Taxers have suffered some violence. A few men in responsible positions hold the Single Tax doctrine; but nowhere in the United States, except in a Single Tax colony of five hundred and eight persons at Fairhope, Alabama, has the Single Tax been put into opera-

tion. So far this colony has met with considerable success, but, like all other similar ventures, it has had little influence on the rest of mankind.

The Single Taxer has rendered his chief service to the community by causing the thinking element to regard in a new light the problems of land monopoly and special privilege. He has indicated the way in which a number of our problems may ultimately be solved. His critics maintain that he does not present a *complete* solution for the undesirable conditions in modern society.

TOPICS FOR CLASS DISCUSSION

1. Outline the life of Henry George, to show the background of the reform which he advocated.
2. Who were the Physiocrats?
3. What is the full economic value of land which Henry George would absorb by his tax?
4. Outline the arguments for and against the Single Tax.
5. From what group in the community does the Single Tax secure its chief support?
6. What is the relation between the Single Tax and Socialism?
7. How radical a break from our social system would be involved in the adoption of the Single Tax?
8. What group would derive the greatest benefits through the Single Tax?
9. What group would suffer most?
10. What influence has the Single Tax doctrine had in economic thought?
11. What has the Single Tax accomplished as applied in New Zealand?

CHAPTER LXIV

THE PROGRAMME OF SOCIALISM

In marked contrast with each of the four other programmes stands that of the Socialists. The "square deal" accepts the present organization of society but asks for fair play. Government regulation stands for a destruction of all monopolies in order that under the economic law of competition just, *i.e.* "cost," prices may obtain. The Single Taxer would restore social justice by abolishing all private monopoly in land and natural resources and restoring to all free access to the soil. The programme of social work, as we shall see, seeks to improve the environment that each individual may ultimately have equality of opportunity. The Socialist, on the other hand, comes forward in opposition to the whole present order of industry and declares that there is no cure for our modern ills unless we uproot the capitalist system of production and put in its place State coöperation, thus entirely destroying the competitive system which each of the other programmes accepts. In further contrast with the four other plans of reform, Socialism rejects all economic theories of distribution, and substitutes in its place a social control of the annual income of society, in ways that it deems best to aid the social end.

The recent growth of Socialism is one of the important phenomena of modern times. Although the Socialist party in this country numbers but about a half million, it has attracted to its ranks some capable men from many walks of life. No one can claim to be a close thinker until he has a clear perception of the Socialist's viewpoint. One may

reserve the right of agreeing with him or not as he in his individual judgment sees fit, but one cannot afford to be ignorant of the programme that he offers. To many the word "Socialism" stand in the same category as "anarchy," and that, in the same category as "bomb-throwing." Such confusion of thought is the mark of an untrained mind.

In studying any new programme, one should remember that there is a natural prejudice against that which disturbs our preconceived notion of things. The old always carries the weight of authority with it. The new must stand alone. It has been the endeavor in these chapters to present the five viewpoints now under consideration in an impartial, dispassionate manner.

The objections which the Socialist makes to the present order of things seem to group themselves under five headings. First and foremost, there is his belief in the universality of exploitation. Exploitation consists in getting less in return for your services than you are worth. According to the Socialist's use of the term, a day laborer creating in a year $900 worth of value and receiving only $400 in wages is being exploited by the capitalist to the amount of $500. In the eyes of the Socialist, exploitation is an inevitable result of a system permitting the private ownership of the tools of production and the purchase of labor in the same manner as any commodity. The owner of the machine becomes the master, and the worker must accept his pay or starve. Since it is to the interest of the tool owner to get the tool user to work at the lowest figure possible, exploitation results.

The second criticism that the Socialist urges against the present system is that it permits the growth of monopolies and offers no effective way to check them. Many of the fabulous fortunes of to-day have been made through the monopoly control of articles of general consumption, — coal meat, ice, and iron; or through the ownership of monopoly business, — street-car lines, telephones, railroads, gas and

water supply. The Socialist maintains that there is no escape to-day from the monopolist's grip except by State ownership and operation of industry. He believes that it is hopeless, and furthermore undesirable, to endeavor to restore competition as a regulator of prices. As competition largely gave way to combination, so he believes State monopoly must succeed private monopolies.

The third criticism offered by the Socialist is that society lacks a plan for the constructive development of all of its parts. He sees chaos in the present arrangement. The world is a bundle of contradictions to him. In an age of plenty, he still sees the universal specters of poverty, ignorance, and crime. Although man has conquered his environment through harnessing the forces of nature and discovering her deepest secrets in the plant, animal, and mineral worlds, there still await solution the problems of the underfed child, the homeless man, imperfect sanitation, low pay, and lack of employment. Progress is a reality to him, but so is poverty. Wherever he looks he sees good and bad. Whichever it happens to be, seems to him to be but the result of blind chance. Too often the welfare and happiness of many are dependent solely on the accident of birth. The race of life is unequal. Some start with such handicaps as a body undernourished from infancy, and a mind undeveloped, having nothing beyond the merest rudiments of an education. These are predestined to a life in a factory at thirteen or fourteen, while others have the possibility of a college diploma, and social and business position awaiting them.

The fourth criticism that the Socialist urges against modern society is its wastefulness. Competition is uneconomic; coöperation, economic. Under the competitive system much is done in duplicate and triplicate that could just as well be done once under a system of coöperation. This is particularly true in the distribution of goods for consumption. A half dozen competing hucksters, milkmen, and icemen pass over the same route daily when half the number

might have distributed the same amount of goods had there been no competition.

In the question of milk, meat, and like supplies, we can no longer trust to the private business conscience to give us goods free from disease and of unadulterated quality. The government now takes the indirect method of employing a large corps of inspectors merely *to go over* the work of private competitors, when it might *do the work* itself.

A fifth criticism of the Socialist is against the essentially evil nature of competition. In industrial competition he sees a force that calls out all the bad in human nature, while at the same time suppressing much that is good. To beat their competitors and make a profit, men adulterate food, employ child labor, violate factory inspection laws, and pay low wages. Competition puts the law-abiding and humane employer at a disadvantage and forces the indifferent employer over into the camp of those who seek success at any price. The Socialist points out the fact that many a child labor battle has been lost in a Northern State because the cry was raised by even the most public-spirited employers that their business would be ruined if they had to compete with the low restriction put upon child labor in certain of the cotton manufacturing States of the South.

And so the Socialist, weighing the present organization of society in the balance and finding it wanting, comes forward with a plan built on an entirely different basis. He proposes to substitute for the private ownership of all land, and capital goods, *i.e.* factories, railroads, stores, and the like, government ownership and operation. Because under such a system there would then be no capitalist to demand interest, all the returns of labor would go to labor and exploitation would cease. As the government would own all the land and natural resources, there would be no monopolist's profits to be paid out of the pockets of consumers. Because competition would be destroyed, there would be no further incentive to adulterate goods, to employ child labor, or for the violation of health

and fire ordinances. In place of a society of competing units, each struggling to get the most for himself, the State under Socialism would substitute an orderly plan. Every child would be guaranteed education and support at State expense, and every man in old age after his life work is over would be an honored pensioner of the government. Instead of working ten and eleven hours a day, the day would be cut in half, through the economies of coöperative action and the absence of social parasites.

Under Socialism every one would be a government employee. Instead of working for this corporation, or that *entrepreneur*, a man would work for the government, much as policemen, letter carriers, and firemen now do. The workman would draw his pay from the State as he draws it from this or that corporation and spend it as he sees fit, except that he could neither speculate in land nor stocks, as they would not be for sale.

The Socialist believes that in many ways society has outgrown the institution of private property, just as much as it has outgrown the institution of property in individuals known as slavery. He admits that both may have been valuable at a certain stage in the development of civilization, but that that time is now passed. In attacking the institution of private property, it should be borne in mind that the Socialist opposes private ownership in land, natural resources, and the tools of production only. Over the ownership of consumption goods, as houses, clothes, food, and the like, Socialism, unlike Communism, would exercise no control.

The Socialist, in common with the Single Taxer, believes that the land is a gift to all from the Creator as much as air or water. He would, therefore, restore it to its original state. He feels, however, that the Single Taxer stops short in his reform in confining common ownership to only two means of life, farming and mining. He believes that the tools of production are equally, if not more so, means of life than land. Therefore, he contends they should be held in common as

much as land and the natural resources. He maintains that social expediency, if not social justice, requires as much. Arguing solely from the standpoint of expediency, he upholds that if the best interests of society are served by a system of common ownership of its capital goods, then there is no reason why such a system should not be put into operation. Public opinion needs only a little further development. As it is now, there is hardly such a thing as absolute ownership. One may own but he may not or shall not abuse, his horse. Even now society has an interest in private property, and the will of the individual must bow to it.

We are here naturally led to ask, but how can this change be wrought and all industry nationalized? This would require the acquisition by the government of not only all land and resources, but also of all railroads and industrial plants. Could this be accomplished with public opinion in its present condition? Such Socialists as Mr. H. G. Wells would answer, "No." He writes: "Socialist institutions, as I understand them, are only possible in a civilized state, in a state in which the whole population can read, discuss, participate, and in a considerable measure understand. Education must precede the Socialist State." And again: "I have tried to let it become apparent that while I do firmly believe, not only in the splendor and nobility of the Socialist dream, but in its ultimate practicability, I do also recognize quite clearly that with people just as they are now, with their prejudice, their ignorance, their misapprehension, their unchecked vanities and greeds and jealousies, their untutored and misguided instincts, their irrational traditions, no Socialist State can exist, no better State can exist, than the one we have now with all its squalor and cruelty. Every change in human institutions must happen concurrently with a change in ideas. Upon this plastic, uncertain, teachable thing, human nature, within us and without, we have, if we really contemplate Socialism as our achievement, to impose guiding ideas and guiding habits, we have to coördinate all the Good Will

that is active or latent in our world in one constructive plan."

Until this intellectual revolution is accomplished, what is the course open to the Socialist by which he may ultimately reach his goal of the complete socialization of industry? The answer is found in the following quotations from a Fabian Socialist: —

"The peaceful and systematic taking over from private enterprise, by purchase or otherwise, either by national or by the municipal authorities, as may be most convenient, of the great common services of land control, mining, transit, food supply, the drink trade, lighting, force supply, and the like."

"The systematic raising of the minimum standard of life by factory and labor legislation, and particularly by the establishment of a minimum wage."

These, along with the measures providing a longer school age, public baths, parks, and playgrounds, are some of the immediate lines of action open to the Socialist.

What the ultimate outcome of Socialism will be it would indeed be difficult, if not presumptuous, to state. Judging from the recent trend of thought, it might be safe to predict that public opinion will ultimately come to be much more unified on many of the economic questions involved in Socialism. There already seems to be a conciliation going on between those who have hitherto been in opposing schools of thought. The Socialist of to-day seems to be more individualistic than his predecessor, while the old-time believer in *laissez faire* has practically disappeared, and his successor, the man who still styles himself an individualist, has become more and more a Socialist. The force of this statement can be felt by comparing on one hand the works of such Socialists as Marx and Engels with those of H. G. Wells of England and John Spargo of America, and on the other hand, the works of such an individualist as Herbert Spencer with Professor Clark, or men of the type of President

Roosevelt. This change in a measure is the result of the growth of social consciousness which to-day seems to permeate the atmosphere of modern life. Certainly the political and social sciences are receiving increasing attention from both practical and academic standpoints. The failure of many communistic schemes seems to have impressed on the minds of reformers that in the past they often misread human psychology by allowing no room for the expression of individuality.

From a theory of *laissez faire* we have so enlarged the functions of government that to-day they not only include factory and food inspection, child labor, and compulsory education laws, but in some places public ownership and operation of the public utilities of light, water, and street railways. Many thoughtful students of modern problems — men who do not belong to the ranks of the Socialist — feel that the time is not far distant when we shall be compelled to make a change in our present form of inheritance law, whereby vast fortunes are passed on from one generation to another. Some also feel that as a result of the present interest in child labor, women in industry, and the sweating evil, we shall ultimately fix not only the number of hours for work but also the rate of pay for women and children.

These changes would seem to indicate a conciliation that is rapidly being effected. This conciliation is not one-sided. The following from the pen of John Spargo indicates how Socialism has abandoned some of its older traditions of substituting at every point State action for that of the individual. "The new society must include at least the following: (1) ownership of all natural resources, such as land, mines, forest, oil wells, and so on; (2) operation of all the means of transportation and communication, other than those of purely personal service; (3) operation of all industrial production involving large capital and associated labor, except where carried on by voluntary, democratic

coöperation; (4) organization of all labor essential to the public service, such as the building of schools, hospitals, docks, roads, bridges, sewers, and the like; the construction of all the machinery and plants requisite to the social production and distribution, and of all things necessary for the maintenance of those engaged in such public services as the national defense and all who are wards of the State; (5) a monopoly of the monetary and credit functions, including coinage, mortgaging, and the extension of credit to private enterprise. With these economic activities undertaken by the State, a pure democracy differing vitally from all the class-dominated states of history, private enterprise would by no means be excluded, but limited to an extent making the exploitation of public interests and needs for private gain impossible. Socialism thus becomes the defender of individual liberty, not its enemy. . . . The future is not a life completely enmeshed in a network of government, but a life with a minimum of restraint." It is interesting to note in the above that the author only includes under government ownership and operation all industrial production, production involving *large capital* and *associated labor*, except where carried on by voluntary, democratic coöperation. The possibility of the social "individualist," and the individualistic Socialist some day standing on one and the same platform does not seem far removed when one notes the changes of thought that have occurred in the past century.

The following from *New Worlds for Old* by H. G. Wells shows to how large a degree the modern Socialist is trying to remove the name Utopian from his cause — a charge which has kept from his ranks a large number of men of practical affairs: "I myself am the profoundest believer in democracy, in a democracy awake intellectually, conscious and self-disciplined; but so long as this mystic faith in the crowd, this vague, emotional, uncritical way of evading the immense difficulties of organizing just government and

a collective will prevails, so long must the Socialist project remain not simply an unpracticable, but in an illiterate, badly organized community — even a dangerous suggestion. I, as a Socialist, am not blind to these possibilities, and it is foolish because a man is in many ways on one's side that one should not call attention to his careless handling of a loaded gun. Social democracy may conceivably become a force that in the sheer power of untutored faith may destroy government and not replace it." Perhaps the future of the whole Socialist movement cannot be better stated than by again quoting from H. G. Wells: "The modern Socialist considers that this generalization" [*i.e.*, of an inevitable class war, of a revolution followed by a millennium] "is a little too confident and comprehensive; he perceives that a change in custom, law, or public opinion may delay, arrest, or invert the economic process; that Socialism may arrive after all not by a social convulsion but by the gradual and detailed concession of its propositions. The Marxist presents dramatically what after all may come, methodically and unromantically, a revolution as orderly and quiet as the precession of the equinoxes. There may be a concentration of capital and a relative impoverishment of the general working mass of people, for example, and yet a general advance in the world's prosperity and a growing sense of social duty in the owners of capital and land may do much to mask this antagonism of class interests and ameliorate its miseries. Moreover, this antagonism itself may, in the end, find adequate discussion and the class war come disguised beyond recognition with hates mitigated by charity, swords beaten into pens, a mere constructive conference between two classes of fairly well-intentioned, albeit perhaps still biased, men and women."

TOPICS FOR CLASS DISCUSSION

1. Prepare a short discussion of the life of Karl Marx for the purpose of showing the cause of his reform work.

2. Was Marx correct in assuming that labor is the sole cause of value in exchange?

3. Give a brief account of Saint-Simon, Fourier, Robert Owen.

4. What effect has the acceptance of the Great Man Theory of History?

5. What is exploitation?

6. What is the proper remedy for exploitation?

7. Of the bases of modern socialistic thought, which appears to you to be the strongest?

8. To what extent is the idea of curtailment of freedom through State legislation gaining ground in the United States?

9. Discuss the Christian Socialist movement.

10. Why has State Socialism had such a rapid rise in Germany?

11. Show the different bases of Christian and State Socialism.

12. What is the relation between State Socialism and Communism?

13. Why has Communism failed where it has been tried?

14. What is Anarchy? Discuss the Anarchist's doctrines.

15. Of the phases of socialistic thought, which do you regard as most rational? Which is most ideal? Which is most undesirable?

16. What are the leading economic doctrines in the platform of the American Socialist Party?

17. To what group in the community do the doctrines of Socialism make their strongest appeal?

18. Theoretically, which group in the community would be the chief gainer through Socialism?

19. Outline the best arguments in favor of Socialism.

20. Outline the best arguments against Socialism.

21. What attitude should the average citizen take toward Socialism as advocated by the present Socialist Party in the United States? Why?

CHAPTER LXV

THE PROGRAMME OF SOCIAL WORK

In the scientific world of late there have been two developments of thought which in a measure complement each other. The one has been in the realm of biology, the other of sociology. Students of the subject of heredity now hold the position that individuals are at birth more nearly on a plane of equality than our ancestors had ever before dreamed. They maintain that in the human germ cell from which the individual life springs, lie all the qualities of a normal manhood. These qualities are latent, however, and await a proper opportunity to unfold themselves much as does the bud of a flower.

The Sociologist comes forward with complementary evidence. Science is daily revealing to him that in environment are to be found the chief causes of disease, poverty, and crime. Both biology and sociology unite in saying, would you improve man, you must first improve his environment. Had the development of thought in these two sciences been in the opposite direction and had they laid their chief emphasis on heredity as the great determining factor in life, the outlook for the conscious advancement of society would have been dark. Changes in society through the force of heredity require thousands of years.

The earliest recorded history gives us no evidence to show that man has materially changed through the action of biologic laws. Moreover, had heredity been given precedence over environment, there could be no programme of social work. This follows from the fact that to a large extent heredity

is a fixed force and difficult of any modification, while environment is plastic and hence capable of immediate change.

Granting that the environment is plastic, little could be made of this fact by itself as far as the conscious improvement of society is concerned. The problem of social work presupposes two other facts. One, that nature is generous and not niggardly, and, therefore, has supplied the means of making possible a high standard of living for each of our ninety millions of people. The other, that a fund of knowledge is rapidly accumulating in the realm of social, economic, and political science, which makes it possible to have a scientific constructive programme for social welfare.

Through invention, discoveries, the accumulation of knowledge, through the industrial revolution and all the accumulated benefits which come from past ages and which we term civilization, man has changed an age of deficit into an age of surplus. With the generous resources of the world and man's present knowledge of how to make the most of them, the days of scarcity and famine are gone. The means are at hand for every person to be well housed, clothed, and fed, without depriving any one else of his full share.

With the possibility of economic security for himself and family, one can spare the time to plan for social welfare. Until this stage of security is reached, the law of self-preservation holds good. Now, however, there is a spirit of Good Will abroad in the land which is manifesting itself in many forms of philanthropy. Society is beginning to look at itself for the first time. The courses in social science in the universities are gaining more and more students. From a half sentimental interest in the submerged tenth, philanthropy is being put on a scientific basis and schools of Social Welfare are springing up throughout the country. All this changed attitude is furnishing data for a definite programme of social work.

The two thoughts running through the programme of social work are, then, first, that man is like a seed containing

all the possibilities of reaching a full fruition, but, like the seed, liable to be dwarfed or stunted at any time in the course of his development by a bad environment, and second, that the environment is plastic, and, therefore, capable of immediate modification.

Throughout the discussion it should be borne in mind that environment is a broad term and far more complex than it seems at first thought. As contrasted with heredity, it includes all forces outside of a man which have a direct or indirect influence on him. This includes not only surrounding physical conditions, such as climate, soil, and topography, but also the social institutions of the home, church, and school, and the influence of associates.

Every programme has its goal or ideal. The programme of social work is no exception. Its aim is a social democracy in which there shall be equality of opportunity for every one to reach the highest development of which he is capable. The programme of social work offers many practical suggestions to reformers who are often charged with painting a glorious ideal but who often fail to point out the way whereby it can be reached.

In analyzing the present conditions, there are three phenomena which are at the basis of our modern ills. They are *overwork*, *overcrowding*, and *premature employment*. Not one is of a nature that will correct itself. They are likely rather to increase unless society takes preventive measures. They are problems which cannot be left to the short-sighted interests of individuals for correction. In the industrial equipment of the country are millions of dollars of capital. It is to the interest of each individual employer to keep his plant running as long a time each day as he can. The only limit that he sees to the workday is the limit of actual physical exhaustion of his employees. This leads to the anomalous position now existing when the length of the workday of the great masses is fixed not by their own choice but by a relatively small number of employers. It has been esti-

mated that every one could be housed, clothed, and fed if each person worked but six hours a day. Yet if the masses desire employment at all they must accept a nine- or ten-hour workday.

The second evil, that of overcrowding, seems to be on the increase. New York City, with nearly a million immigrants a year entering her port, presents a most striking instance of this. The west and south of this country are calling for workmen. In New York the workmen are calling for work and sweat-shop wages and conditions result. Besides this most important question of irregular employment and low pay, overcrowding leads to unhygienic housing conditions. In this direction New York City and Chicago stand as glaring examples of what should not be. They are the result of lack of foresight. Hundreds of other towns and cities in the Union still have their own making in their hands. In this day, when city planning is a recognized science, any town which grows up without an adequate system of parks and boulevards invites evils which it may never be able fully to remedy.

The third evil, premature employment, is one with results so far-reaching that they extend "unto the third and fourth generation." The basic thought of the programme of social work as stated in the opening words of this chapter is "that in the human germ cell from which the individual life springs, lie all the qualities of a normal manhood. These qualities are latent, however, and await a proper opportunity to unfold themselves much as does the bud of a flower." There is nothing which so quickly arrests the normal development of a child as premature employment. It dwarfs him physically, mentally, and often morally. Instead of becoming an intelligent member of the community, he adds to the ranks of the inefficient and illiterate. After three generations of child labor in the Manchester cotton mills, the physique of the average factory worker was so far below the normal that the English government had to turn down nine

out of every ten who applied for service during the late Boer War. The National Child Labor Committee of this country is unearthing illustrations hardly less remarkable.

There was a time when work was of itself educational. The present reign of the large machine of which the attendant becomes but a part has made that day a thing of the past. The average factory work of to-day is deadening the intellect and dwarfing the body.

A hundred years or more ago the State had no interest in the child problem. It was considered as something of a purely individual nature. To-day we realize that in the child lies the hope of the future. To him the State must look for guidance and wisdom when its present citizens have passed away. The training of the rising generation is no longer regarded as an isolated private matter. The programme of social work aims to protect children from incompetent, selfish, or wicked parents. It advocates children's aid societies and a rigid enforcement of child-labor and compulsory education laws.

To fight against overwork, overcrowding, and child labor is but the negative side of the programme of social work. The positive side still remains for presentation. It contains five distinct lines of action covering the subjects of Health, Efficiency, Leisure, Amusement, and Mobility. These we will now discuss in the order named.

Health. — We are just beginning to appreciate how much inefficiency and even crime is due to poor health. Adulterated and unwholesome food from infancy means a devitalized, inefficient man. Dark and unsanitary rooms lay the foundations for the ravages of tuberculosis with its accompanying suffering and loss of work power. In running through the files of records in any charity organization office one is struck with the number of families that are forced over the poverty line because of sickness. It is often stated that were there no drinking there would be no poverty. It would be nearer the truth to say that were there no sickness

there would be no poverty. Such being the close relation between health and common welfare, the programme of social work includes an alliance with all movements in a community whose end is improving the general health. This would embrace measures for tenement-house reform, clean streets, pure milk and water supply, and for stamping out epidemics by efficient quarantines. Under the head of health comes the need of an efficient factory inspection, as the health and happiness of many millions of toilers, especially women and children, depend on this branch of the government. The programme of social work should endeavor to bring to the doors of the people the best of medical science. This would include a network of efficient hospitals and dispensaries throughout each city, as well as a system of State sanatoria for the prevention and cure of tuberculosis such as many of the northern States are now putting into operation.

Efficiency. — If people are healthy, they are a great way on the road to efficiency. Give a man health and his native ability comes to the front. He becomes aggressive. However, health is but the foundation upon which efficiency is built. The programme of social work, therefore, stands opposed to child labor. The evil results to body, mind, and morals of premature employment are to-day a matter of common knowledge based on recorded facts. A stunted body with a mind not only untrained but actually deadened by the monotony of a machine age, gives little promise of efficiency. The programme of social work calls for a fearless and vigorous prosecution of the campaign against child labor.

The positive measures looking toward an increase in general efficiency include a reconstruction of our educational system. In this country we are just beginning to appreciate the need of a type of education whose end is efficiency. This is a need which Germany felt long ago and which she has since partly met through her excellent trade and technical schools. The programme of social work would seek to pro-

vide public trade schools where young people could become efficient workmen in their respective vocations. Along with these trade schools, the social programme calls for a revision of the general school curriculum so that it will better prepare one for the problems of modern life. That all education from the kindergarten to the end of a university course should be free and accessible to all is included in such a programme.

Leisure. — Closely related to the question of efficiency is that of leisure. This is taking the form of demands for a shorter workday, a universal Saturday half holiday, or a greater length to summer vacations. In this age when we harness the forces of nature and make them work for us, when we use vast machines accomplishing the work of scores of individuals, greater leisure is a possibility, and in addition it is desirable as being the most economical. Happy work makes efficient work, while labor in which man is made a human machine is not economical. It is contended, and with a fair show of reason, that in the long run a man who is working on an eight-hour basis accomplishes as much, if not more, than his fellow-workman on a ten- or eleven-hour schedule.

Moreover, from a social viewpoint, it is appalling to realize that as industry is organized to-day one third of the male breadwinners of the country die between the ages of twenty-five and fifty-five. This does not include the many who are incapacitated for work between those years and gives no idea of the misery and suffering to which they and their families are subject.

The programme of social work indorses all movements looking toward an increase in leisure such as the campaign for an eight-hour day, or early closing on Saturday. Beyond the question of the relative productiveness of the nation on an eight- or a ten-hour basis, the social worker has a further interest in the increase of leisure because it affords opportunity for recreation, — the subject of the fourth plank of the programme of social work.

Amusement. — Man living in primitive times was in direct contact with nature. He raised his own food, made his own clothes, and built his own house. He had many chances of varying his occupation throughout the day. All his work was educational. He had the stimulus of seeing a piece of work begun and ended, and of enjoying the fruits thereof, — all this is in marked contrast with the life of the average factory worker. All those qualities which one admires most in a man are deadened when he is compelled to stand day after day, and week after week, before a huge machine of which he becomes but a part.

It is during leisure rather than during work time that character is formed. The basis of character is the will, and at no time does this function of the mind have so free a scope as during recreation. It is then that all restraint is removed and we do as we *will*. The excellent effect of recreation on character is seen in children at play. Often for the first time they learn the meaning of self-restraint. They learn the significance of coöperation and group action in those games requiring team work. At play, the cheat is quickly discovered and punished with ostracism by his fellows. Such object lessons in the fundamentals of morality are invaluable in the normal development of any child. After all, character is acquired from the environment and not from the blood. Amusement is gaining recognition as a force as potent as formal instruction. The social worker would aim to have this force applied to social ends, instead of allowing it to be exploited for commercial purposes, as is largely the case to-day. The facilities that the stage has for doing moral and educational work are tremendous. Its appeal is universal, and it can reach many to-day to whom literature and art would appeal in vain. Since recreation may have the threefold value of aiding health, morals, and intellect, the social worker strives to make public swimming pools, band concerts, amusement parks, popular yet wholesome theaters, playgrounds, and recreation centers more and more universal.

Mobility. — In the chapter on the Theory of Wages, it was pointed out what valuable aid mobility of labor is in the prevention of a cut in wages due to congestion in a particular labor market. The more mobile labor is, the more steady and uniform is the rate of wages throughout a country. There is a definite relation between the number of positions and the number of workers for those positions on the one hand and the rate of wages on the other. If positions outnumber men, wages rise; if men outnumber positions, wages fall. The ability of labor to move from a crowded labor market to one poorly supplied is of the utmost significance to social welfare. Much of the misery in New York City could be removed were there a proper redistribution of her surplus population throughout the rest of the country, principally in the West and South.

It is part of the programme of social work to remove people struggling on the margin, as are many families in the sweated trades of larger cities, to locations giving better chances of survival. For this reason the social worker is interested in cheap means of transportation available for the masses. He encourages immigration bureaus, whose chief business it is to direct the newly arrived immigrant to fields most needing him. He desires to see the establishment of direct steamship lines between Europe and the South, instead of increasing the present congestion in New York and Chicago. The social worker desires not only to improve the environment, but also to place people in the best environment immediately available.

Besides striving for the five ideals of Health, Efficiency, Leisure, Amusement, and Mobility, the social worker has other functions hardly less important. First among these is to be a demonstrator, proving to society at large the practicability of his ideals. Almost every function now exercised by the State in the interest of social advance was begun by private initiative. The public school system, which had its birth but yesterday in our educational history, is the outcome

of private philanthropy. So also there was a time when the only hospitals were those on private foundations. The present municipal lodging houses, state sanatoria for fighting tuberculosis, and free libraries were all first worked out on a private basis. After their utility was once demonstrated, they gradually became part of the function of the State. A legislature is a large and slowly moving body. Its many duties leave it little time to work out new programmes of social advance. It is here that the social worker can render his most patriotic service to the State. He can outline, organize, experiment, if need be, but demonstrate above all to the State the real value of his particular line of endeavor. Those efforts which bear the stamp of approval of the people will ultimately become a State function, though a corrupt legislature may for the time make difficult the line of progress.

As far as finance is concerned, money can be secured for carrying on experiments which have a reasonable amount of common sense back of them. The writer recently attended a lecture given under the auspices of a certain social betterment association. Solely as the result of a brief ten minutes' talk given by the secretary of the organization in introducing the lecturer of the evening, four or five thousand dollars were pledged by a few men for an entirely new project which the society desired to undertake. This does not seem to be an exceptional case. The American public is essentially generous. It needs, however, scientifically trained minds to direct this generosity into effective, constructive channels. This is the second function of the social worker. The third function consists in molding public opinion by holding up new ideals. The chief of these is the thought, now gradually permeating society, that poverty is curable and preventable. People have so long seen the sights of poverty that the eyes have become accustomed to them. With a scientific diagnosis of poverty, it becomes apparent that there are many points in common between disease and poverty in that each has its causes and cures. In so far as these causes are almost entirely environ-

mental, they come within the scope of the programme of social work.

A second ideal that the social worker holds out is the ultimate attainment of a real democracy where each man counts as one. In so far as the chief obstacles of this are environmental — lack of opportunity — means for attaining this ideal come within the purview of the social worker's programme.

The third ideal that the social worker stands for is a clearer and truer view of the function of the taxing power of the State. Too long has taxation been viewed in the light of a robbery, and that which should be kept as low as possible or else evaded whenever chance offers. The funds for the old type of charity were derived directly from private sources. The funds for the new philanthropy, with its efficient schools, playgrounds, and the like, must come from public sources, that is, from private sources by means of taxation. This may be so accomplished as to be little felt by individuals, but whatever the method, it involves a new attitude toward the subject of taxation. In primitive communities or small rural towns, the problems of charity can generally be solved by simple means. It is a question of personal service between neighbors. This individual method of work fails, however, when it confronts the gigantic and complex problems of modern city life. A larger unit than the family or individual is needed in the municipal battle with disease and poverty; a more efficient weapon is needed than that of personal service and sacrifice. The small unit of the family must be replaced by the municipality, which alone can effectively cope with sanitary and housing problems. We have reached a point in our development when the small resources of individuals here and there must be replaced by all the resources of the municipality. The city has the taxing power. No better use of its funds can be found than that whose chief end is social betterment.

One cannot understand the growing enthusiasm for social

work unless he appreciates the religious nature of the appeal that it makes. Social work and religion both emphasize the subordination of the individual to the happiness and welfare of society. Both are idealistic and in a large measure each has the same ideal — universal brotherhood. Religion, hundreds of years before either sociology or socialism was heard of, compared society to a living organism all parts of which are equally important though performing different functions. "But now are there many members, yet but one body." "And the eye cannot say unto the hand, I have no need of thee; nor again the head to the feet, I have no need of you." "And whether one member suffer, all the members suffer with it; or one member be honored, all the members rejoice with it."

The social worker likewise views society as a living organism, all parts of which are related and deserve due consideration. As civilization grows older this is increasingly true. Daily our lives are thrown into closer and closer contact. Repeatedly we are compelled to put our lives into the hands of people whom we not only do not know, but probably will never have the opportunity even to see. It is of vital interest for society to know what kind of intelligence and steadiness of nerve and hand its locomotive engineer has. As our cities become larger and larger, the welfare of our neighbor becomes of greater and greater importance, — so great, in fact, that we dare not leave such affairs to be settled by the conflicting interests of individuals.

This desire to supplement the work of religion may seem presumptuous and the programme too large for successful execution, but the problems to be faced are large, and only a broad constructive programme will suffice. The social worker must make real the new civilization now within our grasp. Its basis is now here. The programme is already in the making. Knowledge creates zeal, and zeal will bring to pass the transformation that knowledge opens up.

TOPICS FOR CLASS DISCUSSION

1. Who are the leaders in social work in America to-day?
2. What is meant by the expression "environment is plastic"?
3. What measures are being taken to-day to overcome overcrowding? premature employment?
4. What steps are being taken to accomplish a better distribution of population in this country?
5. What attitude does the advocate of social work take on the subject of the taxing power of the state? toward education?
6. What are some of the leading lines of activity in social work now being undertaken in America?

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